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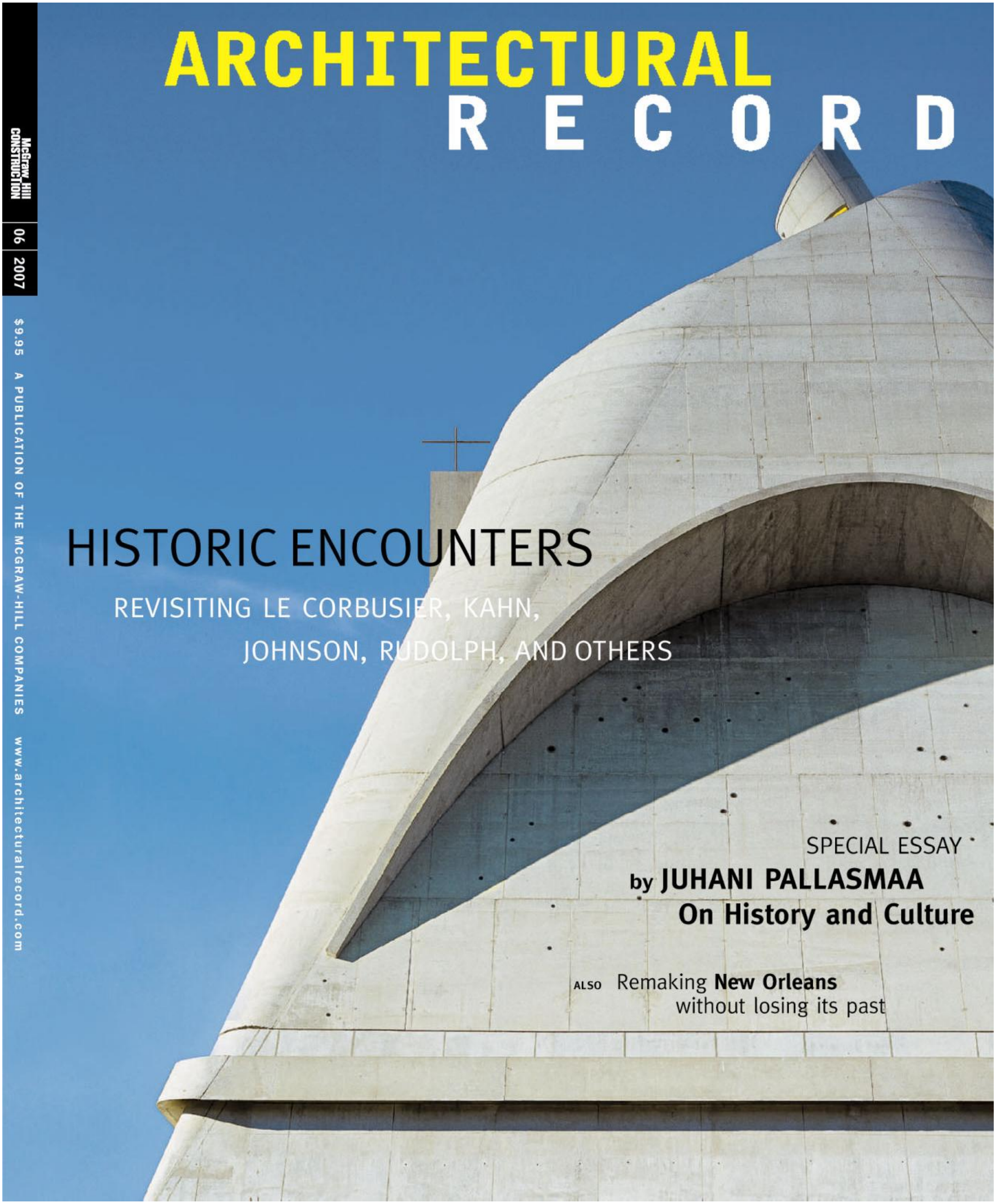

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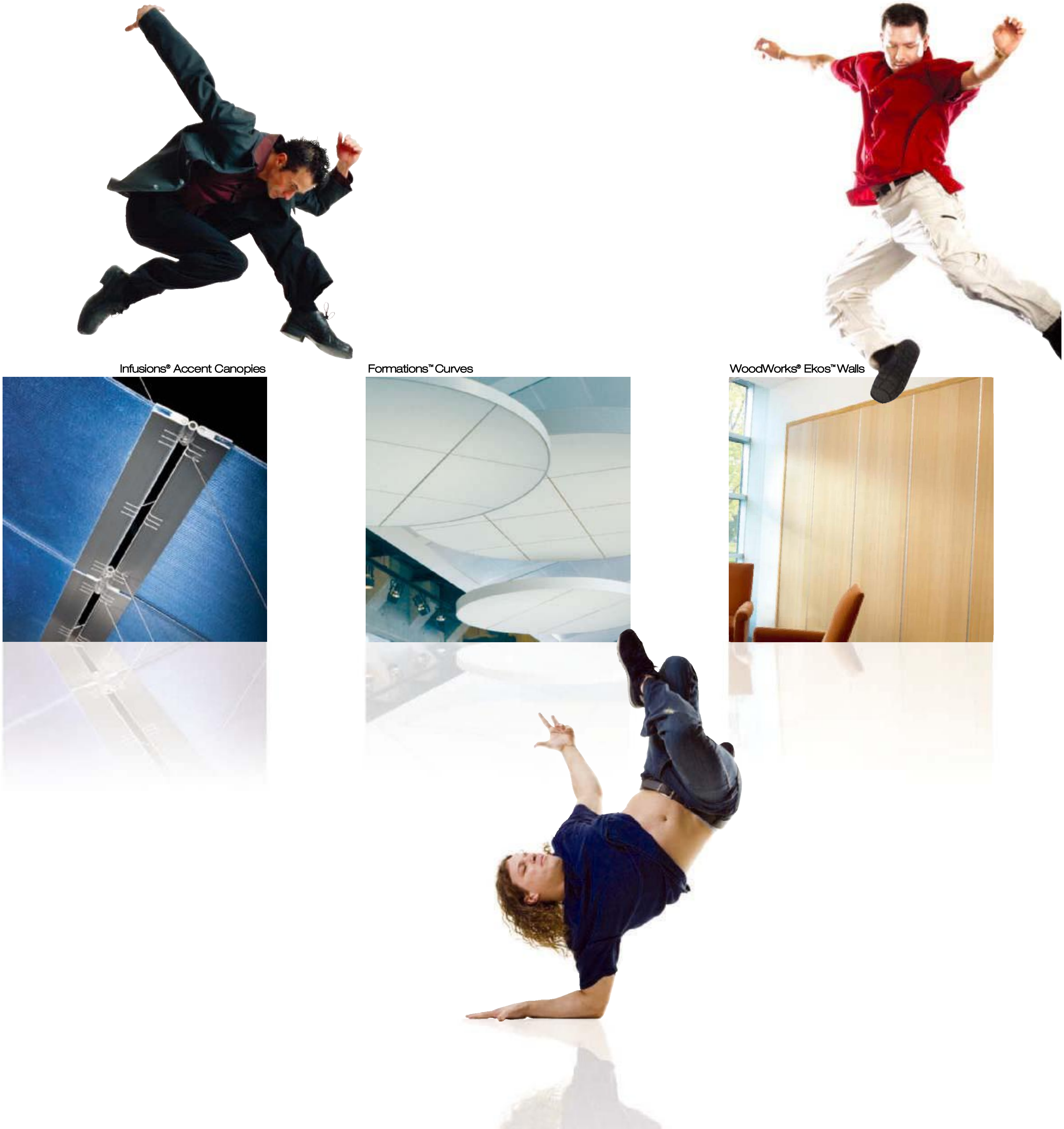
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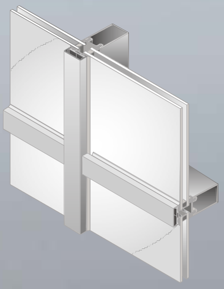

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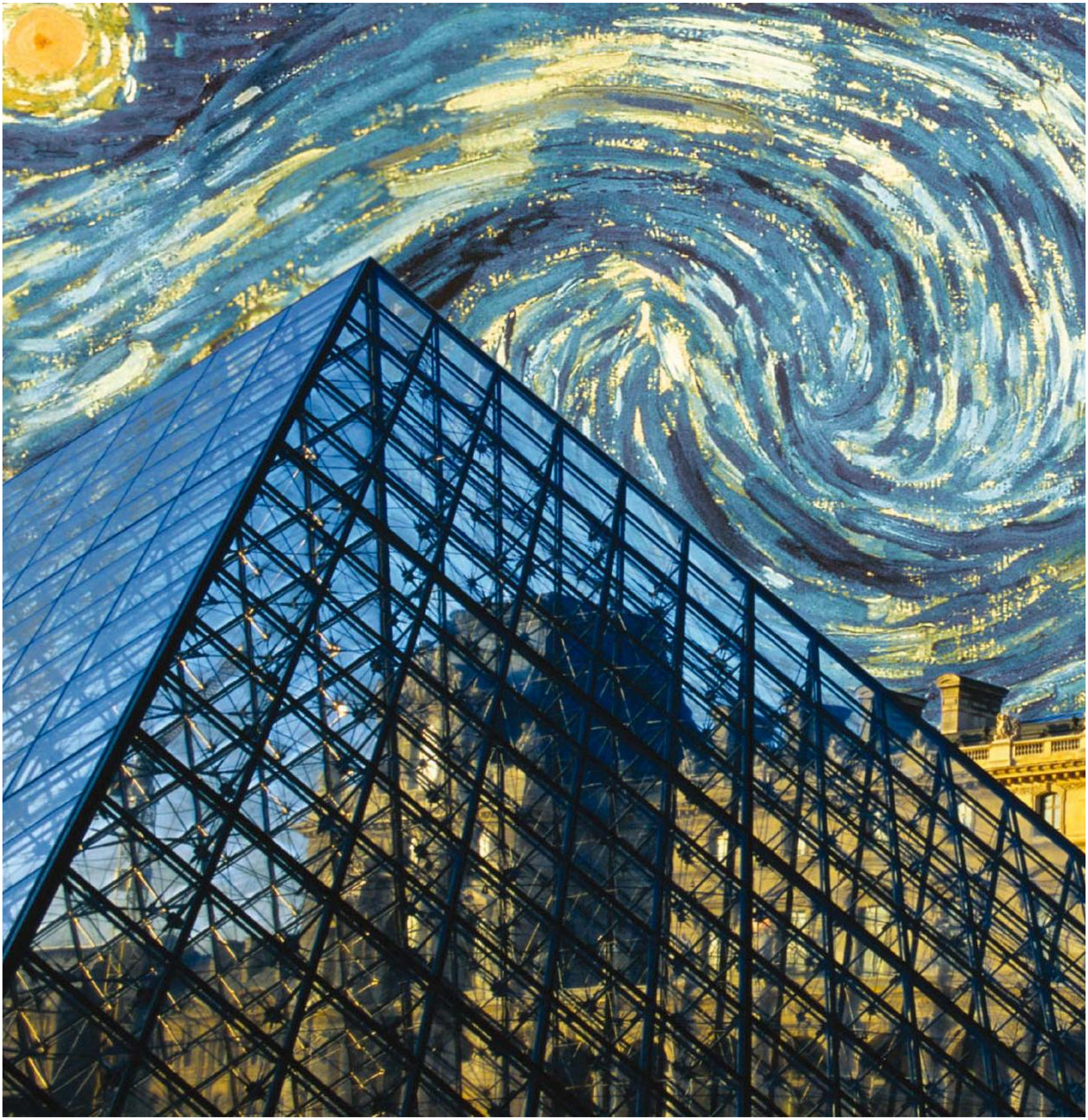

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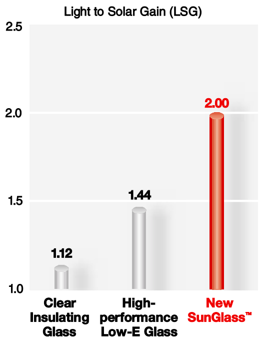

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We invite you to explore the brand-new ArchitecuralRecord.com, which now offers an **improved design** and **powerful tools** that allow you to interact with, and contribute to, the site as never before: You can comment on and rate projects; recommend articles; submit photos of your work; and create an industry profile.

building types study

Web exclusive: Restoration is not just a technique, it takes research, thought, judgment, and design sensibility, as the **12 projects** we present here in images, plans, and text demonstrate. Plus, rate and comment on these projects online.

special interiors section

Combining a respect for history and the desire to create authentically modern intervention also yields new forms and propels innovation. As these three modern interiors prove, **talented designers** are creating **treasure-like spaces** inside historic interiors. Comment on these interiorps online.

MechoShade

project portfolio

Gracefully adding to, changing, or updating a building with historic context is a challenging task for architects, whether that context is **50 years or 500.** This month we bring you to Germany, France, the UK, and back to San Diego and New York to **explore five** standout buildings that exemplify successful transformations without deleting context. You can also rate and comment on these projects online.

blogs and forums

Off the Record Written by the staff of Architectural Record where the magazine's team of experienced, award-winning editors offer their insightful, informal, opinionated takes on architecture-related trends, conferences, exhibitions, projects and personalities. **Your voice matters**—and we have provided you with the ideal forum to express your ideas, opinions, suggestions, and gripes. Our discussion forums, which are open to all, include such topics as Green Building Projects, Virtual Design, Practice Matters and a forum for younger architects. You can also suggest and create your own discussion threads.

From top: A private home, Canyon Lake, California, by Silva Studios Architecture; image courtesy of Silva Studios Architecture. Synygy World Headquarters, Chester, Pennsylvania, by Hillier Architects; image courtesy of Hillier Architects. Fleet Library at the Rhode Island School of Design, Providence, Rhode Island, by Office dA; photograph © John Horner. Eglise Saint-Pierre de Firminy-Vert, Firminy, France, by Le Corbusier and José Oubrerie; photograph © Roland Halbe. Bottom, left to right: Galland House, Laval, Quebec, Canada, by Boutros + Pratte; photograph © Robert Etcheverry. Lincoln Square Canopy, New York City, by Caliper Studio; photograph courtesy of Caliper Studio. Virginia State Capitol, Richmond, by Thomas Jefferson, renovation by Hillier Architecture; photograph © Tom Crane.

residential: house of the month

Web exclusive: An elegant addition brings a modern complement to a traditional home in Laval, Quebec, Canada, by Montreal architecture firm Boutros + Pratte. Rate and comment on this project online.

archrecord2

Archrecord2 catches up with De Leon + Primmer, a firm adding to the evolving built environment of Louisville, Kentucky. We also reveal a winning competition for a listening room constructed of cardboard. Online, meet other talented young designers in Design, Work, and Live, and join the conversation in Talk.

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Learn & Earn

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Denver Art Musuem, Frederic C. Hamilton Building, CO, USA
Courtesy of Arup, New York, NY

Page

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Integrated BIM and Design Review for Safer, Better Buildings

How project teams using collaborative design reduce risk, creating better health and safety in projects

Written by C.C. Sullivan
Provided by

NavisWorks

Learning Objectives

After reading this article you should be able to:

- Apply the productivity and safety benefits of operating in a collaborative design process
- Communicate the use of 3-D graphic design tools across multiple organizations using diverse technology platforms, resulting in better, safer outcomes
- Evaluate the use of integrated design tools, BIM and design review for reducing project uncertainties, waste, risk, and creating safer projects for owners and developers

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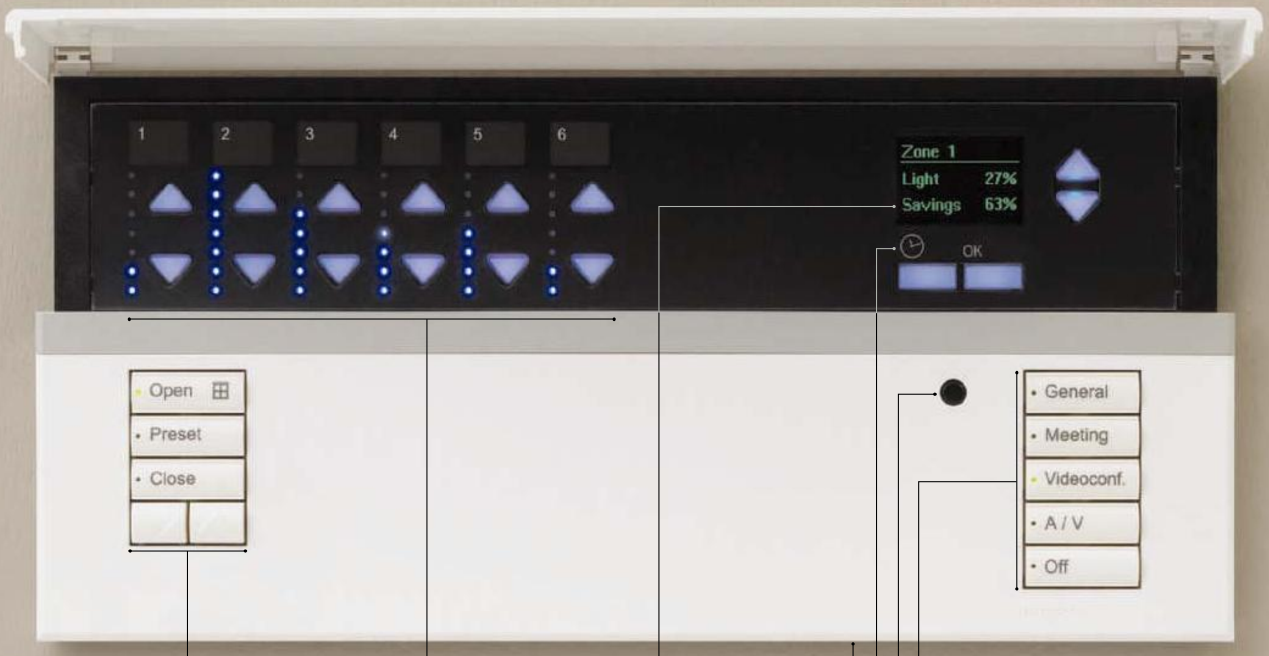
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Editorial

By Robert Ivy, FAIA

"History is the present. That's why every generation writes it anew."
E.L. Doctorow

According to E.L. Doctorow, architectural history becomes what we make of it: Interpretation and perspective shape our view. Today, the history of architecture, that most seemingly benign of subjects, has burst out of the classroom, far beyond Banister Fletcher, to generate energetic, lively debate among a generation revisiting accepted ideas and reexamining structures that rarely retain their original purpose. Contemporary concerns fashion new value systems for older buildings, sometimes resulting in an unforeseen sense of chic, such as when adaptation and preservation reinforce sustainability: What could be greener than reuse?

History can pose conundrums. In this issue, we examine one project conceived, designed, and begun in the 1960s, a project declared historic by authorities, yet only fully articulated and completed decades later. Le Corbusier's St. Pierre church at Firminy, France, represents the intertwining of twin consciences—that of the original architect and of his collaborator, José Oubrerie. The long gestation period and joint authorship invite us to parse the clues in the resulting artifact: In what ways do we value the original architect's contributions and those of his adherent and successor? The question has bedeviled work by other masters whose design intent outlived them, including work completed by the Taliesin Fellowship years after Frank Lloyd Wright's death.

We are revisiting and rethinking existing projects en masse. The facts bear out the assertion that roughly half of all construction work involves some type of renovation, and the percentage is rising, bringing increasing scrutiny to older buildings. Industrial facilities and works of infrastructure have proved to be remarkably adaptable for the 21st century, as the conversion of industrial spaces into lofts, a movement that has spread around the world, attests. In London, the architect John McAslan reinvigorated an important early rail turnaround structure (1846), an iconic roundhouse, into something totally unforeseen at the time of its conception or its subsequent life as a gin warehouse—a stellar theater-in-the-round, which came complete with its own subterranean work areas. Adaptive reuse, if rarely this imaginative, has become commonplace, hardly raising eyebrows.

Intriguing variants on the renovation theme include new interventions within strong older exterior structures, such as the Haus im Haus in Hamburg, Germany, slipped into the revered Handelskammer (1841), or Chamber of Commerce. In interior insertions, while employing the exterior shell as protective enclosure, the transformative additions allow expression of new personality and sensibility while simultaneously upgrading vital systems for thermal comfort or communications. And, voilà, the master structure remains blessedly intact, cradling its fresh cocoon.

Additions can alter the function of the most familiar historic buildings, such as Richard Gluckman's galleries for the Museum of Contemporary Art San Diego added to the former San Diego depot (Atchison, Topeka, and Santa Fe, 1915). Its colorful tumble of boxcarlike forms appended to the original building sends a signal: This older Spanish Mission–style building settled at the city's axial center deserves keeping and demands our attention as a new entity. What had once served as a magnet still draws crowds, but for art, not transport.

Restoration and preservation continue to evolve. Although most often associated in this country with the scholarly protection of late-18th- and 19th-century architecture, the time has arrived to preserve the masterworks of Modernism. Unfortunately, many great projects lie outside secure landmark statutes and are too frequently torn down at will. Witness the teardown of a classic 1972 Paul Rudolph house in Westport, Connecticut, in January 2007—an unconscionable act fueled by high real estate values combined with no statutory safeguards.

Two special residences from the period seem to have escaped safely. The private restoration of Rudolph's own apartment, high above Beekman Place in New York City (begun in 1978), and of Philip Johnson's Glass House (1949) in New Canaan, Connecticut—perhaps the most well-known private residence of the second half of the 20th century in North America and now ceded to the National Trust for Historic Preservation—can instruct another generation on the spatial art and materiality that fascinated late Modernists—qualities we continue to explore today.

What you will not find in this issue is history as stylistic road map or copybook. In our own time, replete—some might say adrift—with stylistic invention and exploration, a revisionist countercurrent is latching onto Neoclassical principles as an anchor. For Neoclassicists, history provides a guide or copybook, but that highly charged question remains for another issue, another month. History, and ARCHITECTURAL RECORD*, march on.*

Robert Ivy

PHOTOGRAPHY: © ANDRÉ SOUROUJON

Letters

Too little, too late

I read with great dismay Fred Bernstein's article on Edward Larrabee Barnes, FAIA [May 2007, page 167], the recipient of the 2007 AIA Gold Medal. One would have hoped that ARCHITECTURAL RECORD would have taken this as an opportunity to highlight for a new generation the extraordinary work of a great 20th-century architect; instead, Mr. Bernstein seemed to feel this was an occasion to air his tepid interest in Mr. Barnes's work (I would add, matched by the equally tepid graphic design effort of the cover).

Mr. Barnes's work has an elegant and timeless quality. Projects brilliantly integrated into their sites are quietly suffused with natural light, materials, and form fused together with graceful economy. He had a love of the profession, and throughout a long and distinguished career always found ways to educate, inspire, and support young designers. These are the qualities that were recognized by the Gold Medal committee. ARCHITECTURAL RECORD owes an apology to the New York City, Kansas City, and Chicago AIA chapters, which, for the first time in the history of the Gold Medal, joined together to put a name into nomination, and to the 136 individuals who signed a letter of support.

ARCHITECTURAL RECORD's grudging recognition of Mr. Barnes's work is part of an ongoing puzzle; the real story is why the AIA did not honor this seminal architect with the Gold Medal during his lifetime.

—Anne Wattenberg, AIA
Denver

If you have ever spent any time at Ed Barnes's Haystack Mountain School of Crafts you would have had the pleasure of experiencing a near perfect combination of site and building: Each is made better by the other. In my view, Barnes was at his best at this scale and in this region. You can see in the faces and behavior of the students and faculty the contentment that architecture of this selfless quality can bring.

By the way, in the photograph taken at Marcel Breuer's house in New Canaan, Connecticut [page 166], I think the unidentified man is Wilhelm Von Moltke. The timing of the picture is about right, because I met Willo at the Saarinen office, in Bloomfield Hills, Michigan, in 1949, when I started working there while still a student at Cranbrook.

—Niels Diffrient
Ridgefield, Conn.

Shame on the AIA and shame on ARCHITECTURAL RECORD for waiting until after his death to give Edward Larrabee Barnes paltry recognition of his humanity and enormous contribution to American architecture. It was way too little, way too late. The AIA, in its typical fashion, attempts to use others' talents to polish its own public image by association, rather than recognize greatness in its own time. RECORD, in similar manner, allots a measly few pages to an architect who contributed more to American architecture than all the pre-, post-, and past Modernists since Gropius and Mies. You should have devoted the entire issue to this great and humble man.

I had the honor and pleasure to work with Ed. He was the kindest, gentlest, most focused, and creative architect I'll ever meet. In many instances, I watched him quietly assert his profound concepts amid administration pressures to "be less overbearing." Your last paragraph sums up Ed's greatness. His architecture's biggest strength is "self restraint," a quality that most architects, American or otherwise, would do well to learn and practice.

—Marshall Moretta
Evanston, Ill.

Playing politics

I am enjoying the May issue and am pleased to see your reminder that "architecture remains a social art." It also, alas, requires some political art, at times—as, case in point, your coverage of the no-longer Renzo Piano 1,000-foot tower in the middle of Boston's delicate downtown and the Rudolph building that may be demolished to make way for it [May 2007, Record News, page 52]. Additionally, are you aware that Boston's City Hall is now seriously threatened? The mayor plans to put it up for sale (demolition assumed) along with City Hall Plaza and build a new city hall at the edge of the seaport (inaccessible by public transit). It's hard to know where to begin, but we are trying again to get Landmark protection. A petition to study the building for designation has been accepted by Landmarks, but the mayor can veto designation even if the commission votes for it. The only thing that can stop this is national attention at a scale that convinces him this would be an embarrassment.

—Joan Goody
Boston

Modern man

I have always been curious as to why traditional (pre-Modernist) architecture never receives awards. True, there is recognition of the occasional retrofit or renovation of a classic building. But on the whole, it seems ludicrous to ignore those eccentrics who still cling to a style out of favor with typical contemporary architecture. I consider myself a Modernist but wish architects would realize that the public as a whole prefers more traditional buildings.

I was especially distressed to see so much ink given to the Portico Scots Church Redevelopment project [May 2007, page 230]. Why would an architect be so disrespectful of a traditional group of buildings and why would ARCHITECTURAL RECORD validate the architect's vandalism and mediocre modern design by publishing such tripe?

P.S. I was pleased to see the AIA finally recognize Edward Larrabee Barnes, FAIA, with the Gold Medal. Would that it could have come during his lifetime and given proper recognition to this great architect.

—Loy Ray Clemons
Via e-mail

Corrections

In April, an article about the 2010 World Expo [page 36] misstated the size of the 1.5-million-square-foot Expo Center. A May news story about the Latrobe Prize [page 50] omitted that the American Institute of Architects' College of Fellows is the body that awards this honor. A May feature, "Integrated practice in perspective" [page 116], mischaracterized Gensler as a 1,700-person firm. In fact, Gensler employs over 2,600 people in 30 different offices. A photograph of the Sabine-to-Bagby Promenade in May's Lighting section [page 286] was incorrectly attributed to Elaine Mesker-Garcia; the photographer is Geoffrey Lyon. A story on Roger Ferris + Partners's headquarters in the March Interiors section [page 179] misprinted the office's square footage. It is 22,000 square feet, not 2,200.

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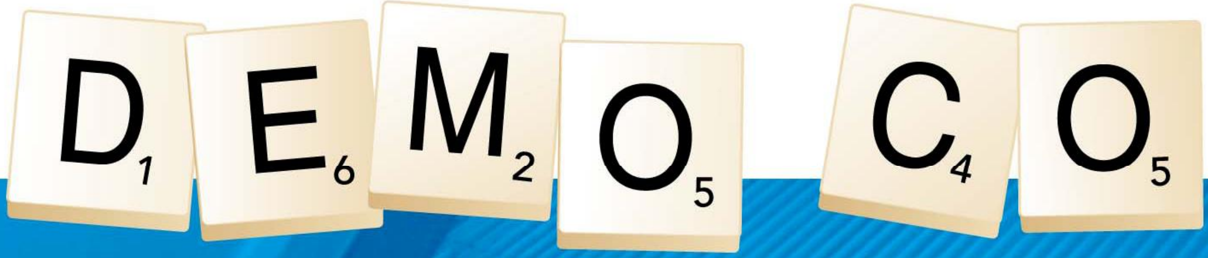

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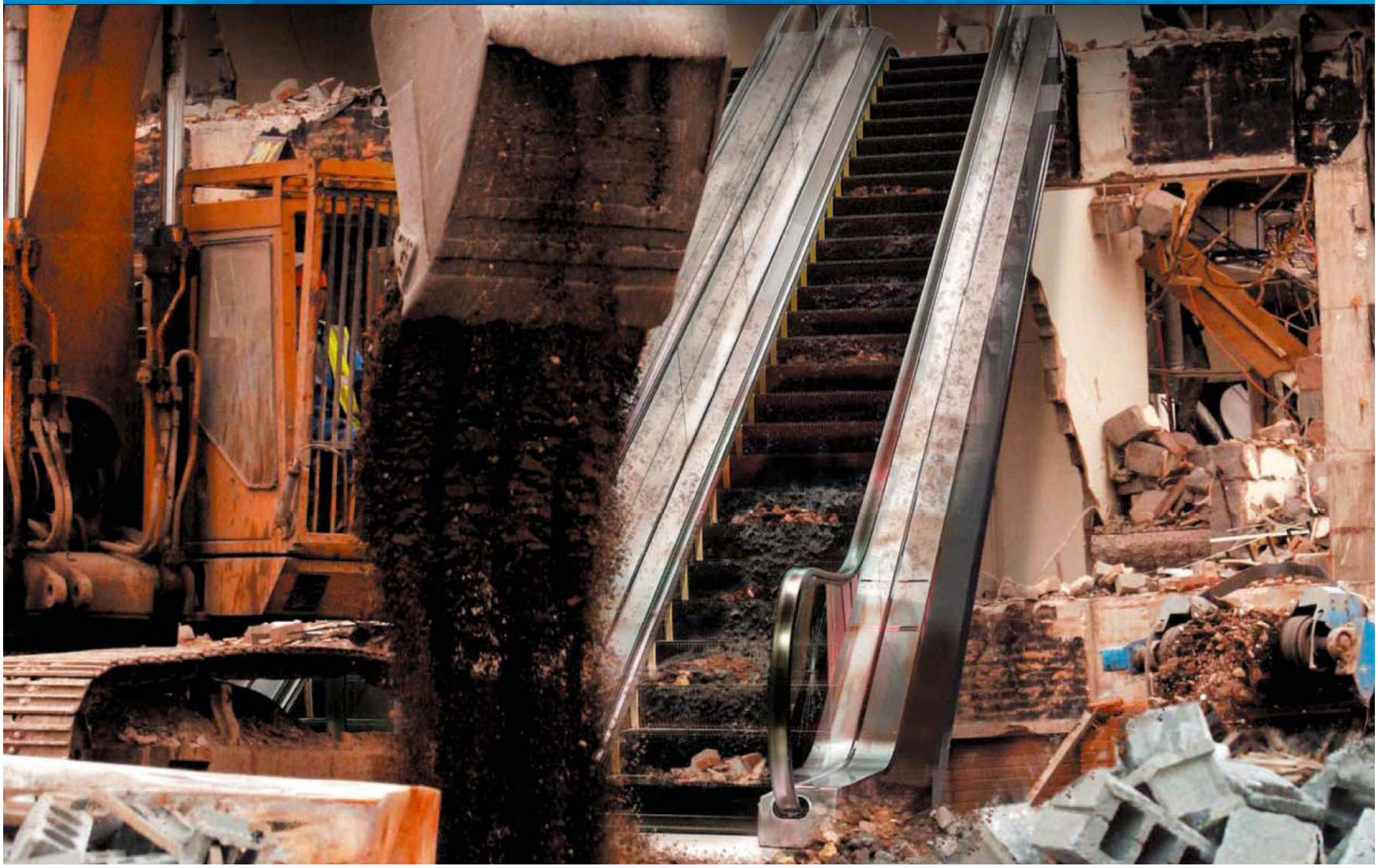

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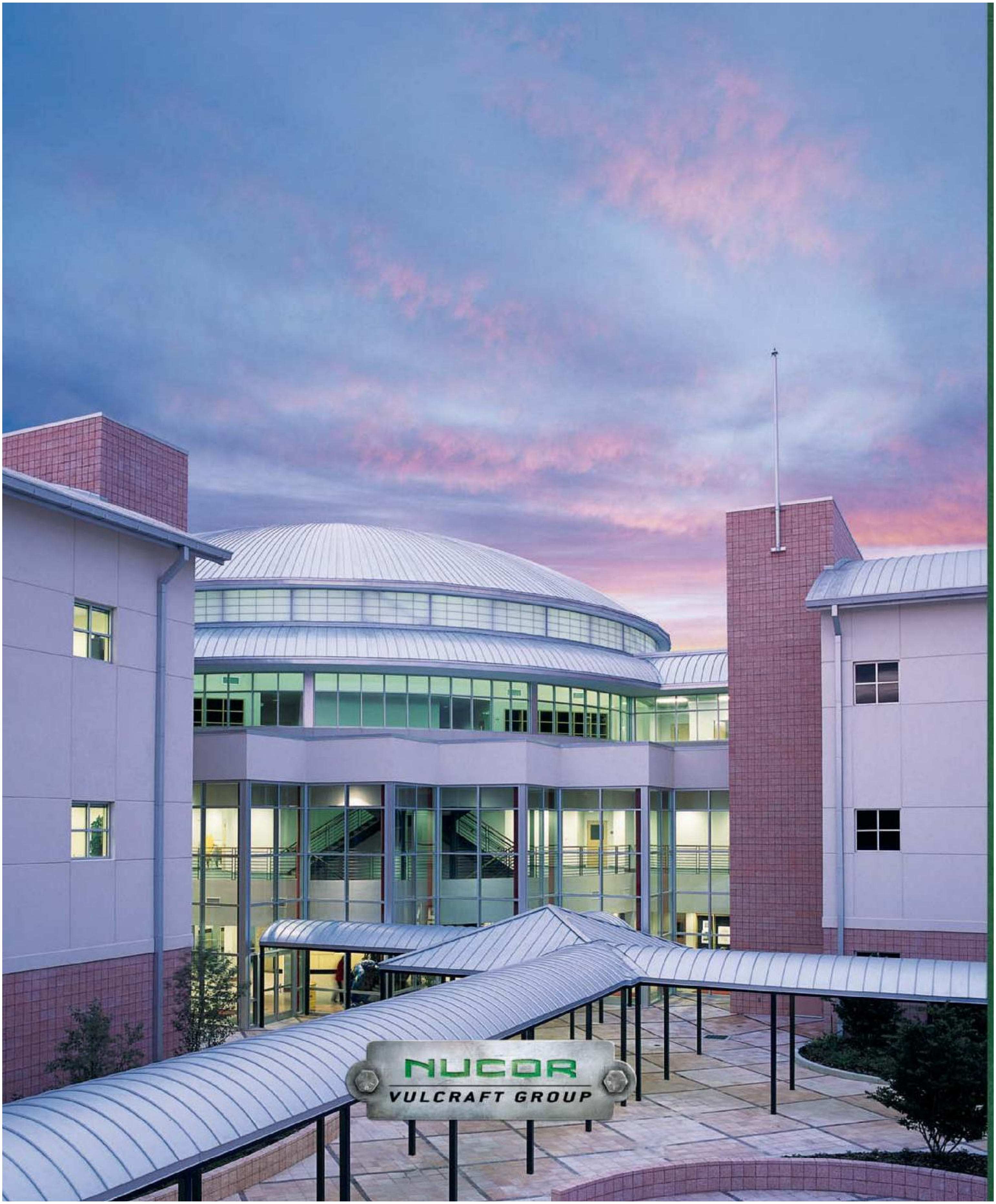
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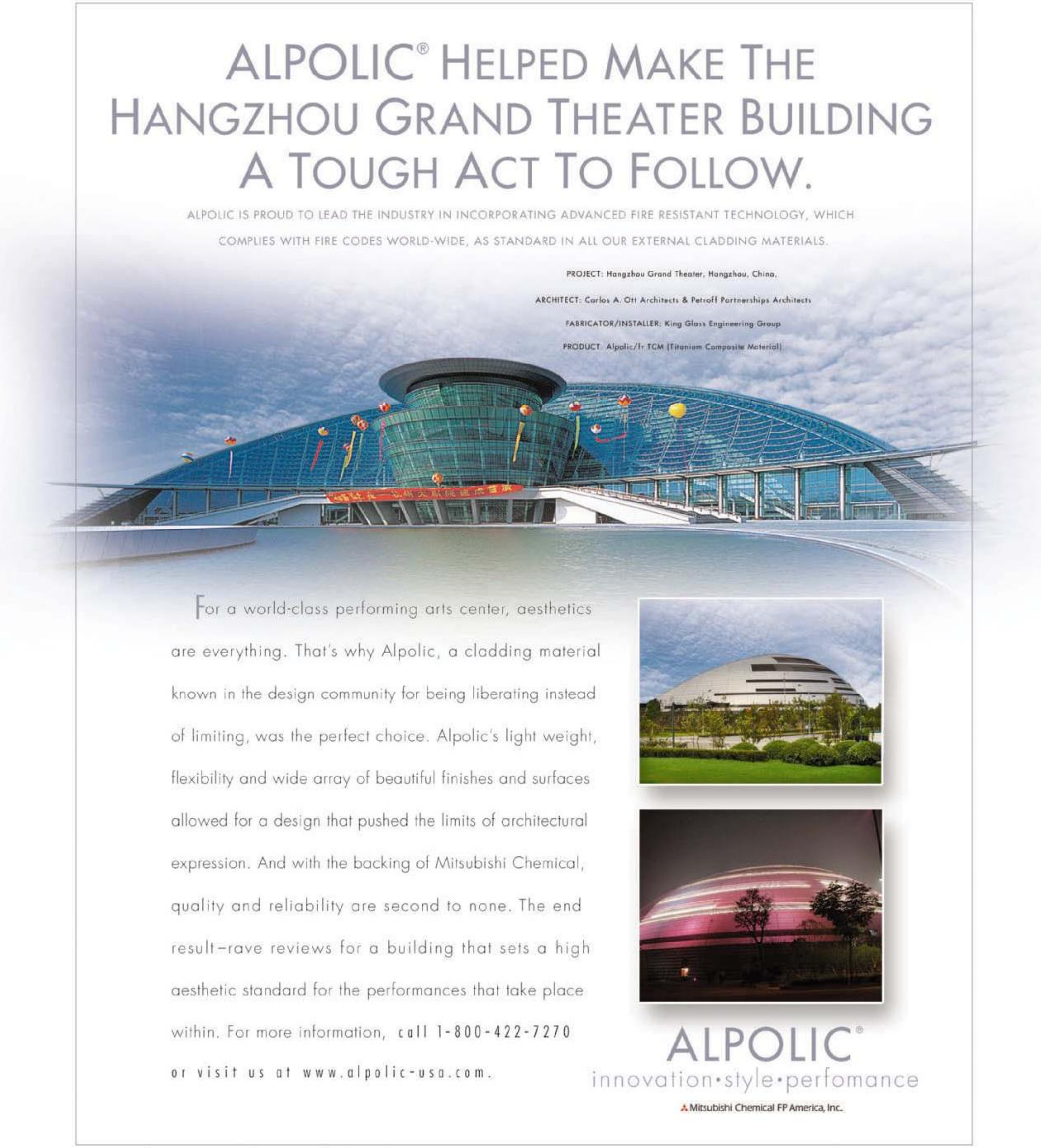

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As threats to Rudolph's legacy mount, foundation hires a fresh face

Nepal Asatthawasi (left) stands amid the ubble of Paul Rudolph's Michaels House (above). The Cerrito residence (top) is next on the list of properties facing demolition.

PHOTOGRAPHY: © CHRIS MOTTALINI (THIS PAGE)

It wasn't a good year for the Paul Rudolph Foundation. In 2004, Ernst Wagner, who established the foundation, took a nasty fall in the Manhattan town house that Rudolph designed for himself and Wagner in 1989. His injury followed the departure of the foundation's director, who left due to a budget shortfall.

Wagner and the foundation recovered, but today the organization faces a new crisis as Rudolph's buildings are endangered by a storm of real estate pressure and Rudolph's association with the misunderstood and underappreciated Brutalist movement. The list of threatened or demolished structures includes a 1972 house commissioned by Dr. and Mrs. Louis Michaels in Westport, Connecticut, that came down in January. The current owners of Rudolph's Cerrito residence in Westerly, Rhode Island, are making plans to tear down that property.

Sarasota, Florida, where Rudolph was a leader of the city's namesake school of Modernist architecture, is the most active battleground for his legacy. The grassroots group Save Riverview, working with the National Trust for Historic Preservation, recently won a stay of execution for Riverview High School, which the county wanted to demolish; they have until March 2008 to raise $20 million for an alternative scheme to move forward. Also in Sarasota, Joe King, AIA, a published Rudolph expert, recently applied to demolish the Twitchell House after deciding it financially imprudent to restore the 1941-vintage residence. In addition to needing repairs after a fire and flooding, the structure sits just 25 feet from the Gulf of Mexico, making it a candidate for repeat damage. At press time, King had tentatively worked out a deal to rebuild the house elsewhere.

The Paul Rudolph Foundation is following new plans to fight these threats, thanks to Nepal Asatthawasi, who was named coordinator of the organization last October. The 26-year-old understands that some observers will do a double-take at her age, but she wants to use her generation's savvy to build excitement about Rudolph's work. "I'm perhaps more open to technological intervention," she says, and discusses transforming the foundation's Web site into a dynamic networking site that offers "news of teardowns and rumors of a teardown, not just of Rudolph buildings but his whole generation's."

Asatthawasi's expanded vision for the foundation includes educational efforts founded on wiki culture as well as elbow grease. She is currently documenting Rudolph's houses and will make this archive available online; a film is also in the works. To help boost the foundation's meager revenue, Asatthawasi is inviting more members to join its board—and telling candidates that fund-raising will be a responsibility of membership. Although it won't increase revenue, she also plans to get Rudolph homeowners "involved in an exclusive network. And hopefully they'll appreciate it enough to pass on those values, and perhaps not be so quick to pass on the property to a less sensitive buyer." She is introducing sellers to interested buyers, or encouraging them to use auction houses instead of local property brokers.

Asatthawasi admits that the foundation is unable to purchase properties outright, but she compares her job to leading a high-tech startup company and suggests that the foundation's online endeavors could help reignite the field of preservation. "I haven't seen any kind of widespread effort to do something vital in this realm," she notes. *David Sokol*

ON THE BOARDS

Studio Daniel Libeskind has created an icon to perch atop an icon: a 50-story residential tower rising astride the Hummingbird Centre theater complex in Toronto. Completed in 1960, the Hummingbird was designed by Peter Dickinson. Libeskind's tower will start construction in 2008. *Alex Bozikovic*

Herzog & de Meuron are draping a diaphanous glass structure over the roof of a brick-clad warehouse in Hamburg to create 1.3 million square feet of space for a 2,150-seat performance hall, museum, and other facilities for the NDR Symphony Orchestra. Already under way, Elbe Philharmonic Hall opens in 2010. *James Murdock*

Beyer Blinder Belle is giving visitors a reason to linger at the ground floor of the Empire State Building in New York City. The firm is overseeing the restoration of long-obscured Art Deco murals on the lobby's ceiling. Work begins next month. *C.J. Hughes*

For full coverage on these projects: architecturalrecord.com/news/.

Aging Moderns still prove controversial

Paul Rudolph's 1960 Blue Cross/Blue Shield Building in Boston broke aesthetic and technical ground while respecting the scale of a historic streetscape. But the developer of a proposed new skyscraper has sketched it out of the picture, and the building's fate is now uncertain. In Cleveland, meanwhile, county commissioners approved plans this spring to demolish Marcel Breuer's 1971 Cleveland Trust Tower.

Although these buildings have their admirers, they challenge entrenched notions of historic preservation and highlight an ongoing debate about saving Modern buildings. They also serve as reminders of lingering hostility toward much postwar architecture. "It's difficult for people to understand that a building built in their lifetime is historic," says Christine Madrid French, president of the Recent Past Preservation Network. And Modernist architecture starts with a couple of strikes against it, given its anti-historicism, use of industrial processes, and rigid geometries. It's also frequently associated with controversial and often disruptive urban-renewal schemes. "A lot of these buildings were built on ashes of other buildings," observes Jeanne Lambin, a National Trust for Historic Preservation field services coordinator in Wisconsin. "Some people will never be interested in the preservation of Modern architecture."

But when buildings reach 50 years old, they become eligible for the National Register of Historic Places, qualifying for tax credits as well as other incentives and protections. An estimated 70 percent of buildings in the U.S. were constructed following World War II. Many are poised to hit the magic age. And many younger buildings are also considered worthy of protection. This leads some preservationists to argue for new selection criteria: lowering the age limit, for instance, or allowing exceptions.

This sentiment, though, is not universally shared. "There's a danger that if we start saying so much of this is history, we will invite skepticism," says Donovan Rypkema, principal of the consulting firm Place Economics. A better argument for preservation can be made with the principles of sustainability, he says. Destroying an existing building and constructing a new one expends far more energy than renovation. The sustainability rationale argues for placing less emphasis on maintaining the architectural design and details. But federal standards established by the Secretary of the Interior, which determine eligibility for tax credits, emphasize saving original materials, retaining significant changes made over time, and distinguishing interventions from an existing structure. Postwar buildings often present a challenge.

"So much of what so many Modern buildings do is get an idea across about material, form, and social conditions," says David Fixler, head of Docomomo New England. "It has less to do in most cases with the importance of materials." He adds that restoring or duplicating original materials can be problematic since many buildings contained short-lived, experimental technologies.

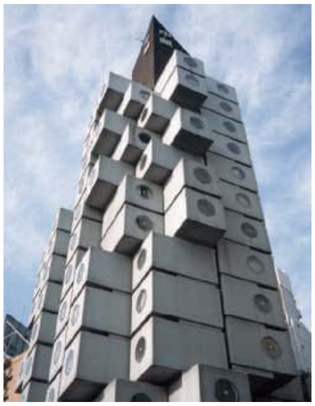
Fittingly, the experimental energy that sparked Modernism can be applied to the handling of these buildings now. "It's an architecture that broke with tradition," says Theo Prudon, head of Docomomo U.S. "Why shouldn't its preservation break with tradition?" *Ted Smalley Bowen*

Kurokawa's Capsule Tower to be razed

Kisho Kurokawa can't seem to catch a break. Just days after the Japanese architect lost his bid for the governorship of Tokyo in early April, the Nakagin Capsule Tower, his best known building and one of the few built examples of the Metabolist movement, was given a date with the wrecking ball.

Completed in 1972, the Capsule Tower stands in Tokyo's affluent Ginza district. It is actually composed of two concrete towers, respectively 11 and 13 stories, each encrusted with an outer layer of prefabricated living units. It has long been appreciated by architects as a pure expression of the 1960s Metabolist movement, which envisioned cities formed of modular components. But in recent years, the towers' residents expressed concern over the presence of asbestos. On April 15, the building's management association approved plans calling for the architectural icon to be razed and replaced with a new 14-story tower. A demolition is yet to be determined.

Kurokawa has pleaded to let the Capsule Tower express one of its original design qualities: flexibility. He suggested "unplugging" each box and replacing it with an updated unit, letting the base towers remain untouched. Japan's four major architectural organizations, including the Japan Institute of Architects, support this scheme. But the building's management were unconvinced and raised concerns regarding the towers' ability to withstand earthquakes, as well as its inefficient use of valuable land. The new building will increase floor area by 60 percent.



Following the board's decision, only Kurokawa continues to raise a protest. If the Capsule Tower is destroyed, it will join a growing list of losses. His Sony Tower in Osaka, completed in 1976, came down last year; Plantec Architects designed a glass-walled commercial building that will replace it. *Yuki Solomon*

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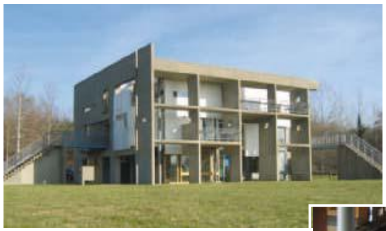
ON THE BOARDS

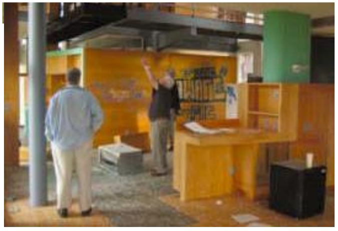
Parameter is converting the largest and tallest industrial building on Baltimore's waterfront into more than 200 condominiums. Silo Point repurposes a 290-foot-tall grain elevator, built in 1928, and several 130-foot-tall silos. It opens in 2008. *J.M.*

Killis Almond & Associates is restoring the Alameda Theater—an Art Deco movie palace and performance hall that is to Latinos in San Antonio what the Apollo is to African-Americans in New York. The 1949 building, which reopens in 2009, is part of the new Alameda National Center for Latino Arts and Culture, an affiliate of the Smithsonian. *Elizabeth Lunday*

Gensler restored the terra cotta-and-brick facade of a 1924 building and, behind, it created the Center on Halsted, Chicago's first gay community center. The 175,000-square-foot complex also includes a supermarket. It opens this month—Pride Month. *D.S.*

For full coverage on these projects: architecturalrecord.com/news/.





José Oubrerie (second from left in photo below) inspects damage inside his iconic Miller house (left).

Oubrerie's Miller house vandalized

The fate of the Miller House, in Lexington, Kentucky, is in doubt after vandals have attacked it. Designed by Le Corbusier protégé José Oubrerie, it has been described as one of the finest residences of the 20th century. Intruders entered the now-vacant property several times this spring and painted graffiti, broke windows, and knocked in much of the plaster. Repairing the damage, Oubrerie estimates, could cost $300,000.

The Miller House was finished in 1991 for Robert Miller and his wife, Penny. After her husband passed away in 2002, Penny Miller sold the house in early 2006, as well as 20 acres of land, to Schneider Designs, a local, family-owned residential developer. Oubrerie and enthusiasts of the house fear that the firm will be unwilling to pay for repairs and will eventually demolish it. Calls to Schneider were not returned.

The facades of the Miller House are composed of a thin, cast-in-place concrete screen that wraps around several painted-wood inner structures: One surface is a simple grid of interlocking slabs; another has small vertical and horizontal slits. Inside, the house features an irregular composition of three two-floor living spaces—each with its own bedroom, bath, office, and independent entrance. Built-in cabinetry echoes the facades' interlocking forms.

"I was bored by normal house planning," Oubrerie says of his design. "I was interested in exploring my past, and in exploring the city as a house, and the house as a city." The French architect worked in Corbu's office from 1957 to 1965 and was the chief designer of Saint Pierre in Firminy, France (page 108). Now a professor at Ohio State University, Oubrerie was dean of the University of Kentucky School of Architecture when he designed the Miller House.

Oubrerie says that the Schneiders failed to activate the property's security system and have declined offers to pay for its reactivation. "It's not so much the vandalism, it's that they let the vandalism happen," he observes. "I think they want the house to be in as poor shape as possible so they can get rid of it."

Michael Jacobs, a friend of Oubrerie's and an adjunct professor at Kentucky's School of Architecture, is investigating ways to protect the house, including listing it on the National Register. Additionally, he received a pledge of support from the American Institute of Architects during a meeting with its president, RK Stewart, FAIA, in May.

But landmarking a structure takes time, Oubrerie observes, and the house needs protection now. He is trying to raise money to buy the house from the Schneiders. In the meantime, Jacobs has enlisted the help of his students to cover the building's broken windows with plastic and plywood. *Sam Lubell*

LACMA to collect houses—or maybe not

Michael Govan, director of the Los Angeles County Museum of Art (LACMA), created a buzz in museum circles earlier this year when he expressed an interest in acquiring canonical, Midcentury Modernist houses for his institution's collection. As detailed by *The New York Times* on March 15, Govan's plan would preserve L.A.-area houses as in situ satellites of the museum.

Although the idea is hardly new, his remarks generated considerable excitement. But Govan has since retreated from his original statements. He declined to comment for this story. LACMA's president and C.O.O. explained the museum's current position. "Eventually, we would love to collect houses and preserve them," Melody Kanschat says. "But we don't have any plans."

Plans or not, the possibility that LACMA might one day collect notable houses sparked a dialogue about the role of art museums today. Richard Koshalek, president of the Pasadena Art Center College of Design, is no stranger to unorthodox collections. While a curator at L.A.'s Museum of Contemporary Art, he acquired Michael Heizer's *Double Negative* (1969–70), a Nevada earthwork whose trenches are as long as the Empire State Building is tall. "I applaud Michael," Koshalek says. "L.A. has an unbelievable resource in these houses, including Neutra, Wright, Gehry, and Schindler. They deserve this attention." Citing the need to share the responsibility for preservation with other institutions, including the National Trust, he adds that he is convinced that this is a necessary step for museums. "If the museum is to be relevant, it has to extend beyond the range of current responsibilities. It cannot be limited by scale."

Proving this point, Paola Antonelli, curator of design at the Museum of Modern Art, New York, has long expressed interest in acquiring a Boeing 747 for her collection. The plane would operate normally and be made available for public viewing at a local airport—or in flight. MoMA also has a history of maintaining houses, including Richard Neutra's VDL House and the Schindler House, both in L.A. "Museums must think beyond their buildings," Antonelli says. "I'm so happy that LACMA is thinking of doing this." *John Gendall*

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Crouching Olympics, hidden preservation

Beijing's "Nail House," nicknamed for its defiance, has succumbed.

After building designs were revealed for the 2008 Beijing Olympics a few years ago, reports turned to stories of displaced local residents and the destruction of historic architecture as the city began revamping its infrastructure. A photo that recently made the front page of newspapers worldwide best captured the activity: a lone house standing defiantly amid a giant construction pit. Nicknamed the "Nail House," the diminutive dwelling finally succumbed to a backhoe on April 3—its owner, Wu Ping, joining the estimated 300,000 people who have been displaced by construction. But behind these dramatic scenes, a preservation ethic is gradually emerging. Some of the highest profile developments currently under way in Beijing preserve and incorporate old buildings.

In the Qianmen neighborhood, Beijing Dashalan is converting a series of hutongs—traditional courtyard houses—into a residential and retail corridor. And nearby, Handel Lee, a lawyer who developed two adaptive-reuse projects on the Bund in Shanghai, is transforming the Legation Quarter, a 4-acre estate that once housed foreign diplomats, into an upscale retail and entertainment property. Within five landmarked buildings that display a mix of Chinese and Victorian architecture, Gilles & Boissier is designing a restaurant for chef Daniel Bouloud; and Andy Hall, a British architect based in Shanghai, is working on an outpost of the Bouhjis Club.

Journalist Wang Jun is widely seen as sparking China's nascent preservation movement. His 2003 book *Beijing Record* highlighted the forgotten heritage of Liang Sicheng, an urban planner active in the 1950s. Liang, who incidentally happens to be the uncle of architect Maya Lin, devised a plan for Beijing that was a modern way of preserving the past while integrating the new.

"This book about Liang influenced both the government and the common people more than any other book written by urban planners," observes Jiang Jun, who edits the architecture magazine *Urban China*. "A thinking arose that architectural preservation is not only a moral-consciousness problem, but a problem linked to rational urban planning."

Jiang adds that the government is slowly realizing that rather than treating Beijing like a tabula rasa, there is value to saving historic buildings and open space. Also, due to recent efforts to flush out government corruption, it is more cautious about greenlighting every new development. Beijing's preservation policy is by no means set, Jiang notes, and it remains to be seen what will happen after 2008. "It's still going to be a turning point of the preservation. It will be much more difficult to make a change to the policy after the Olympic Games, when growth is slowing down." *Andrew Yang*

Politics, history bedevil Jerusalem projects

Work on Santiago Calatrava's Jerusalem Chords Bridge began in January. Its 387-foot mast will be the city's tallest structure.

Jerusalem, a millennia-old city sacred to Judaism, Christianity, and Islam, is also a growing metropolis and the capital of a modern country. But its population of 720,000, two-thirds Jewish and one-third Palestinian, is deeply divided religiously and politically. Development must accommodate these groups' conflicting needs—and ubiquitous archaeological remains.

Even a seemingly simple project, such as replacing a temporary pedestrian bridge leading to the sacred Temple Mount, can provoke the threat of Armageddon. In February, just as construction was to begin, archaeological excavations rekindled old rumors that Israelis were endangering the al-Aqsa mosque nearby. Riots forced Mayor Uri Lupoliansky to freeze the project. Although other ancient cities must grapple with archaeological remains, Jerusalem with its development problems is unique—and requires solutions that go beyond architecture.

Typical design issues such as height and material choice often take a back seat to religious and political considerations, says David Kroyanker, a Jerusalem-based architectural historian. He cites the Frank Gehry–designed Museum of Tolerance, part of which is to be built on Muslim graves. Planning began in 2000, but the project is now mired in a lawsuit brought by two Muslim groups. A judge recently ordered an architectural solution. The one that was offered—that part of the museum be cantilevered so that it's "over, not on" the graves—was deemed "ludicrous" by Muslim objectors. A final ruling could come as early as this summer.

A lack of respect for different cultures' values often lies at the heart of Jerusalem's problems. Local architect David Guggenheim observes that the degree to which opposing groups will compromise often depends on the prospects for peace in the region. Currently, these prospects are receding.

Guggenheim echoes many residents who want a greater voice in planning decisions. He adds that completing the long-delayed detailed zoning plans for burgeoning Palestinian neighborhoods—without which the city refuses to issue building permits—could break the vicious cycle of illegal housing construction and demolition.

But instead of finishing these plans, elected officials pursue projects by high-profile architects that they claim will attract tourists and boost the economy in Jerusalem, the poorest of Israel's cities. Among them are Gehry's museum and a bridge designed by Santiago Calatrava, currently going up as part of a new light-rail system. Many observers believe politicians' priorities are misguided.

"Jerusalem is not Bilbao and it doesn't need additional tourist attractions," contends Anda Barr, newly elected chairman of the Israel Association of United Architects. "The right way to get good architecture is through international competitions for public buildings, rather than by importing big names."

There are some glimmers of hope. Mayor Lupoliansky promised that the plans for a new Temple Mount bridge will be subject to public review, and the city is upgrading public housing. For now, though, if anything is certain, it's that Jerusalem won't be built in a day. *Esther Hecht*

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PlaNYC v. The London Plan: Which is Greener?

When New York City hosted a 40-city conference on strategies for surviving climate change in May, it was perhaps fitting that the opening reception took place at the Hearst Tower, a green building designed by London-based Foster & Partners. One month earlier, Mayor Michael Bloomberg released PlaNYC, a 127-point scheme to cut the city's greenhouse-gas emissions while overhauling standards for buildings, traffic, and public space. Attracting the most attention was his proposal to create a toll for drivers who enter the city's core—mimicking London's congestion charge, established in 2003. As it happens, London is New York's chief rival for cultural and financial primacy. It laid out its own scheme for combating global warming in 2004. Although the two plans share many similarities, New York's could prove more far-reaching.

Other large cities tackling climate change concentrate on particular sectors: Chicago, for instance, encourages green roofs. London and New York are more comprehensive. Both focus on promoting development near mass transit and making buildings more energy-efficient. But New York asks architects and developers to make the most of existing spaces, while London encourages innovation on underdeveloped land.

Labeled a "spatial development strategy," The London Plan laid the framework for constructing sustainable projects in underused areas such as the Lower Lea Valley, three miles east of the city's center. As plan manager Debbie McMullen told a Manhattan audience in March, the possibility of developing that site drove Mayor Ken Livingstone's successful bid to host the 2012 Olympic Games. PlaNYC, by contrast, envisions new housing built on decks over railyards and highways, and expediting brownfields remediation. It also calls for creating a public plaza or park within each of 50 community districts and relies on landscaping in parking lots and green roofs to capture storm water and spare overtaxed sewers. Most ambitiously, it seeks to use funds equal to 10 percent of the city's energy expenses to retrofit municipal buildings with technologies that reduce carbon emissions by 30 percent—and it asks landlords of private buildings larger than 100,000 square feet to do the same.

London will likely pursue similarly audacious ideas on its own relatively blank canvas. Its strategy looks 15 years into the future, with goals that respond to European guidelines mandating the construction of more affordable housing. PlaNYC, meanwhile, sets 2030 as its deadline. Before then, it must pass several hurdles. Bloomberg will seek funds from the newly announced Clinton Climate Initiative, but he needs state authorization for other initiatives. Also, landlord groups such as the Real Estate Board of New York want more time to implement improvements. *Alec Appelbaum*

"Sky Gateway" could be closed to high rises

Preservationists in Great Britain are backing stronger planning powers that would affect the look—and height—of London's future buildings. In March, the government released its White Paper on Heritage, which called for creating development buffer zones around 27 World Heritage sites, including the Tower of London and the Houses of Parliament. It followed closely on the heels of calls from UNESCO to prevent skyscraper construction near heritage sites that are at risk from rising sea levels and other effects of climate change.

Among the towers that could be affected by an exclusion zone is Rafael Viñoly's so-called "Walkie-Talkie," a 630-foot-tall skyscraper that Land Securities seeks to develop near the Tower of London. English Heritage contends that the bulbous building—which it describes as "an oppressive and overwhelming form"—will spoil what it calls the city's best patch of skyline, a "Sky Gateway" that stretches 3.5 miles east from the Tower of London to Canary Wharf. Though the Walkie-Talkie was granted planning approval in September, soon after it became subject to an inquiry assessing what the government terms "the appropriateness of a very, very tall building."

English Heritage's interpretation of Rafael Viñoly's looming Walkie-Talkie.

Ken Livingstone, London's mayor, has no objections to the tower's height. But the White Paper proposals, which could become law this year, create a dilemma for him. Livingstone promotes skyscraper construction as a tool for encouraging urban revitalization. Indeed, other legislation currently making its way through Parliament would expand his power to intervene and promote buildings that he personally favors.

One such project could be a $3 billion redevelopment of the Victoria Station transit hub. Land Securities tapped KPF to design two 50-story towers as part of a cluster of new buildings there. The Westminster City Council expressed concern that they will obstruct views of the Houses of Parliament. Although Livingstone asked the developer to consider reducing the towers' height, he remains committed to the project.

Land Securities submitted designs for Victoria Station, without height reductions, for planning permission this spring. The fate of Viñoly's Walkie-Talkie, meanwhile, is expected to be decided in July. It remains to be seen how proposals to expand the buffer zone around heritage sites will impact either scheme. *Lucy Bullivant*

Chicago Spire approved

The Chicago Planning Commission unanimously approved Santiago Calatrava's Chicago Spire in April. Designed for a 2.2-acre lakefront site—although its footprint will occupy barely half that area—the seven-sided glass tower tapers and twists to point 2,000 feet above a public plaza, making it the tallest building in North America. The 3-million-square-foot structure will contain 1,200 condominiums and aims for LEED Gold certification.

Calatrava has likened his slender spire to a wisp of smoke and a snail shell. Each of its 150 floors rotates two degrees from the orientation of the floor below it, decreasing in width as the tower ascends. This spiraling form helps dissipate heavy wind downdrafts. The entire structure perches on seven, W-shaped columns that straddle a 56-foot-tall, glass-enclosed atrium.

Remarkable as the building is, the process of gaining public, governmental, and financial support proved difficult. Garrett Kelleher, founder of Shelbourne Development, purchased the site last summer for $64 million after the original developer failed to secure financing. He is providing initial funding without the help of financiers or presales—leading many observers to wonder if he'll be able to finish the project, whose price tag could soar to a reported $2 billion. Even so, a Shelbourne spokesperson says that Kelleher is confident construction will begin immediately and finish in 2010.
Erin de Losier

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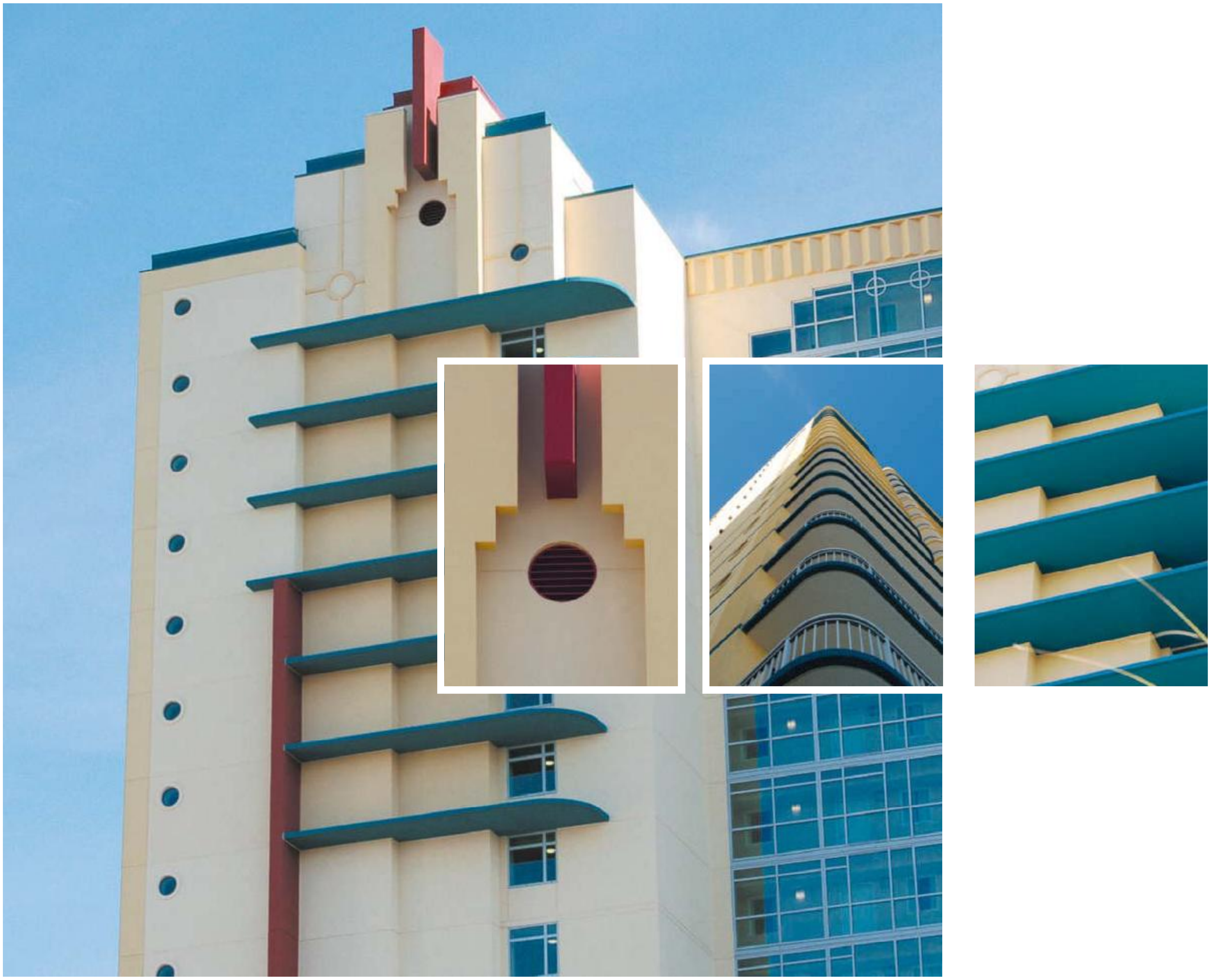

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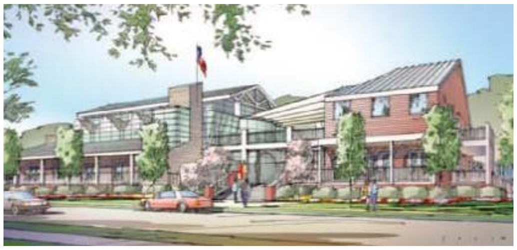

The Ellis Marsalis Center for Music (left) will anchor Habitat for Humanity's new Musicians' Village in the Ninth Ward (above).

In the months following Hurricane Katrina, two well-connected musicians, Harry Connick, Jr., and Branford Marsalis, began thinking about how they could help New Orleans's music scene recover. They soon teamed with Habitat for Humanity to envision Musicians' Village: a neighborhood composed of 70 single-family homes, five duplexes, a park, and a performance center, that would provide musicians with affordable housing and work space. The move from cultural mission to concrete buildings has not been as simple—or as musical—as they initially hoped it would be, but it is finally showing success.

Musicians' Village is located on an 8-acre site in the Upper Ninth Ward. At its heart will be a 250-seat music hall. Designed by the local firm Mathes Brierre Architects, the 15,000-square-foot Ellis Marsalis Center for Music (named for the pianist and patriarch of the famed Marsalis clan) pursues a contemporary glass-and-brick aesthetic in a neighborhood characterized by clapboard structures. Generous fenestration will let in plenty of daylight—which, coupled with photovoltaic cells generating the building's electricity, could qualify the project for LEED Gold certification. Construction is set to begin in September.

Roughly half of the residences, meanwhile, are already complete. Habitat began building the Village in 2006, still in emergency mode, concentrating on putting up structures as quickly as possible. The first few were nearly identical, differentiated mostly by their bright colors. But as construction progressed, Michael Bell, principal of Bell Architects, began introducing variation. He upped the ceiling height and pitch of Habitat's standard model to produce a design that more closely resembles the local shotgun vernacular. He also created a greater variety of footprints and added simplified versions of traditional Arts and Crafts detailing. Construction on the remaining residences begins this month and is expected to finish in November. Bell sees the flexibility of his design as a function of the village itself, which he describes as an "urban planning and policy experiment."

But the experiment has hit a few wrong notes. Credit problems and a lengthy application process discouraged many musicians from buying in the village. Moreover, fair housing laws prevent Habitat from selling to only a specific type of person. In response, the nonprofit group relaxed its application process by accepting performance records instead of pay stubs and allowing musicians to work less than the 350 hours of "sweat equity" it usually requires of new homeowners. It's also now aiming for a 60:40 ratio of musicians to other residents. *Susan H. Gordon*

Louisiana recovery continues to hit snags

Homeowners and municipalities in Louisiana are encountering serious funding roadblocks as they continue to rebuild. The biggest obstacle is the Robert T. Stafford Disaster Relief and Emergency Assistance Act, which governs how the Federal Emergency Management Agency (FEMA) administers aid programs.

The Stafford Act is a well-intentioned 1988 law designed to reduce fraud. It requires local governments to advance federal money for infrastructure repairs. Although the act promises they'll be reimbursed later through a "match-share" program, most municipalities are unable to afford the up-front costs. Many also criticize the law for requiring what they describe as complicated, inflexible worksheets that both governments and individuals must file when seeking FEMA aid.

"We have a laundry list of things we'd like to change about the Stafford Act," says Donny Williams, staff director for the Senate subcommittee on Disaster Recovery, which is chaired by Senator Mary Landrieu (D-Louisiana). "We believe it was built for a pretty bad disaster, but in no shape or form is it adequate for catastrophes." Critics also contend that FEMA is misinterpreting parts of the act. Williams cites the practice of "underevaluation," in which the agency only provides funding for property owners to rebuild a structure to its original condition. Without upgrades, he says, buildings remain vulnerable.

For its part, FEMA contends that it is simply following rules set forth in the act. James McIntyre, an agency spokesperson, says that President Bush has set aside local block funds to help communities make match-share payments. To cut down on delays in distributing funds, he adds, the agency has hired more staff and established better ways of organizing and verifying aid registrants. "We are constantly reviewing ourselves after each disaster to see what we did well—and what we can improve."

Requests for more improvements may be forthcoming. The Disaster Recovery subcommittee held hearings on the Stafford Act this spring, and Landrieu's office is drafting legislation that would modify the act to simplify the funding requests process and provide more federal money up front.

Other recovery operations in Louisiana are also working out their kinks. The Road Home program, managed by the Louisiana Recovery Authority and the state governor's office with federal grants, provides up to $150,000 in compensation to homeowners and loans to other property owners. The program has closed on 15,567 grants, and has paid out $768 million, but is far from paying the 38,000 requests it has received. Some estimates peg the total cost of funding them at $3 billion.

"There have been many more applicants than were originally anticipated," says Gentry Brann, a Road Home spokesperson. "State officials are now meeting to discuss what the shortfall is and what they can do to cover it." *S.L.*

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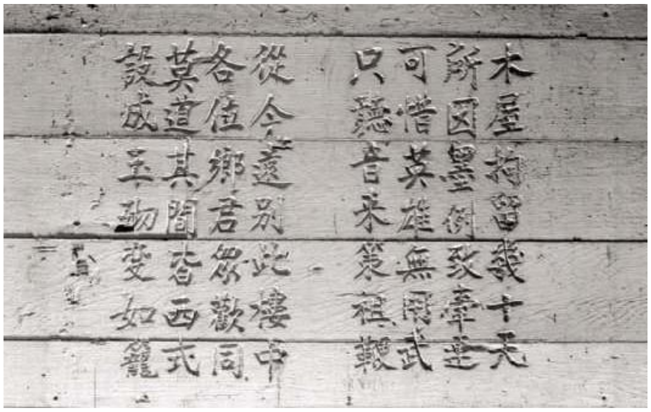
New day dawns for Chinese writing on the wall



The Architectural Resources Group (ARG) and Tom Eliot Fisch have resurrected a nearly lost piece of history by preserving the handwriting on the wall—literally—at the former Angel Island Immigration Station in San Francisco. Known as the West Coast version of Ellis Island, it was the entry point for close to 200,000 predominantly Chinese immigrants at the turn of the last century. Angel Island's compound consists of barracks, a hospital, and a powerhouse. These structures are less well preserved than their eastern counterparts. Demolition was planned for the early 1970s, until hand-etched poetry was discovered on the dormitory walls. A listing on the National Register of Historic Places soon followed.

When the Chinese Exclusion Act of 1882 was in full force, the island's barracks functioned as a detention center to control the number of immigrants allowed into the United States. Detainees covered its walls with hundreds of poems that expressed their anguish. One rhyming couplet reads: "Red tape has held us up in this wood shack for scores of days/Our talent lies waste." Treating these words like defacement, custodians painted over them—but immigrants would then recarve their writings.

Lead-based paint turned out to be "a perfect preservative" for the palimpsest of poems, says Aaron Hyland, AIA, an ARG principal who oversaw a $16 million, four-year restoration project. To conserve the poems, crews carefully cleaned the walls of dirt and mold. They then applied a wood preservative, reattached flaking paint layers, and treated the walls with a consolidant to stop the decay.

Translations of the poetry now form the core of an interpretative tour of Angel Island, which was designated a national park. Future plans for the immigration station include converting the hospital into a genealogy research center, and the powerhouse into a visitor's center. *Violet Law*

Selldorf to renovate Clark Art Institute

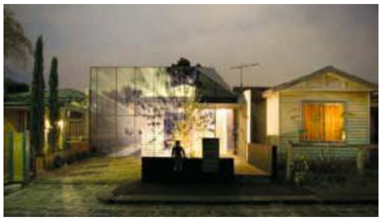
The Sterling and Francine Clark Art Institute has selected Selldorf Architects to renovate its museum in Williamstown, Massachusetts. Renowned for its collection of French Impressionist paintings, as well as American paintings by Winslow Homer, John Singer Sargent, and Mary Cassatt, the Clark occupies a neoclassical structure designed by Daniel Perry in 1955.

Michael Conforti, the Clark's director, says that the institute chose Selldorf because of the Manhattan-based firm's experience designing art galleries and its ability to accomplish historic renovations with tasteful subtlety. Citing its renovation of a 1914 mansion for the Neue Gallerie in New York City, completed in 2001, Conforti observes, "We know we will get a seamless renovation that will harmoniously blend the old and new spaces."

The revamped Clark will connect to a new exhibition, conference, and visitor's center designed by Tadao Ando. Work on both structures is due to be finished in 2013. By relocating some existing services into Ando's building, Selldorf will be able to repurpose 5,000 square feet at the Clark and thereby increase the amount of exhibition space by 40 percent—that building's overall size, though, will likely remain unchanged at 25,000 square feet.

Of her approach to historic renovations, principal Annabelle Selldorf explains, "The task is to find the right language, an existing vocabulary that allows you to have a presence without insisting on being first in line. That means making the building seem like it was really meant to look this way. We'll know the difference, and others might not notice. In other words, it will only get better, and it won't look altogether different." To hear more of the interview with Selldorf, listen to a podcast at architecturalrecord.com. *Christopher Kieran*

Virtual old house masks a new one



Rows of Victorian-era workers' cottages line the streets in Richmond Hill, a residential neighborhood of Melbourne, Australia. While these humble dwellings do not appear intimidating, the surrounding historic district's covenants make some architects cringe. Jon Clements, of Jackson Clements Burrows Architects, is among them. When given the opportunity to work there in 2001, afforded by his brother's acquisition of a house, he faced a quandary of expressing originality within preservation's restrictive prerogatives.

The house in question was a single-story weatherboard cottage in a significant state of decay. Clements's brother hoped to build a new structure rather than renovate. Although the local council initially objected, it eventually determined that he could replace the building on the condition that the new structure's height, form, and details were similar. Yet Clements was uninterested in merely rebuilding the old house. "Heritage controls often lead to the imposition of prescriptive design, resulting in 'mock' heritage buildings that undermine the value of quality assets," he explains.

Clements instead wondered if he could "invoke the idea of context and memory by making it virtual." He eventually arrived at the concept for Old House. Its front facade is a one-to-one scale graphic of the original house, printed in reverse on translucent digital film applied to the inside surface of a panelized, two-story glass wall. This projection masks a two-story contemporary residence, taller than the heritage council would otherwise allow. If Old House's facade is seen as a Luther-style nailing of architectural theses to preservation's door, Clements isn't disappointed. "It's a response to the difficulty of making architecture in heritage zones," he admits. Finished in 2005, it has certainly invigorated the conversation about preservation. *C.K.*

IMAGES: COURTESY ARCHITECTURAL RESOURCES GROUP AND TOM ELIOT FISCH (TOP TWO); JACKSON CLEMENTS BURROWS ARCHITECTS (BOTTOM RIGHT); CLARK ART INSTITUTE (BOTTOM LEFT)

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Little-known law could cost small practices plenty

The American Institute of Architects (AIA) has joined a coalition of more than 60 business groups attempting to repeal a little-known but far-reaching tax law called Section 511. Passed last year, the provision requires federal, state, and some local governments to withhold 3 percent from virtually all government contracts to help cover the contractors' federal taxes.

Included in the Tax Increase Prevention and Reconciliation Act of 2005, which aimed to cut taxes and boost federal revenue, Section 511 applies to contract payments beginning in 2011. Proponents say it will help the Internal Revenue Service collect taxes and help to recoup $7 billion in unpaid back taxes owed by roughly 60,000 federal government contractors.

"The [IRS's] National Taxpayer Advocate has repeatedly reported that systematic withholding is the most effective means of supporting and contributing to a taxpayer's ability to comply with income-tax reporting requirements," states a report authored by the Senate Finance Committee, chaired by Senator Chuck Grassley (D-Iowa).

But critics contend that Section 511 is too costly and could hurt millions of governments and businesses alike. "It's an ineffective way of dealing with a serious problem," says Julie Roin, a tax professor at the University of Chicago Law School. "The only thing the law does is ensure that if companies go belly up before their taxes are paid, there's some fund from which the government can get paid its share of taxes."

For its part, the AIA worries that the law will hit design businesses hard, especially small ones. "If you're a single guy or a small firm, that's going to create a lot of new regulatory headaches for you," observes Andrew Goldberg, the AIA's manager of federal regulatory affairs. Although federal regulations have yet to be written, making many details of the law unclear, the AIA is concerned that architects' cash flow might suffer with 3 percent lopped off their contracts up front. For larger corporations, which typically face a 35 percent federal tax rate, 3 percent will represent only a sliver of their tax bills.

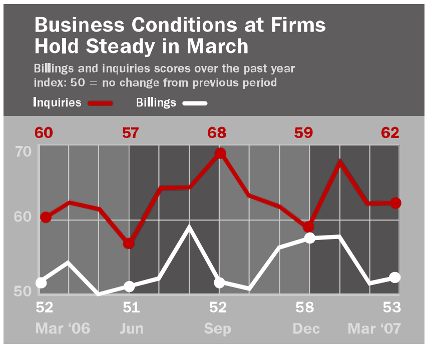
The AIA also says that the public will lose because the law might push some talented architects to avoid the new burden by choosing private rather than government building projects.

Other groups are concerned about who will bear the cost of the new law. Chris Braddock, of the U.S. Chamber of Commerce's Government Withholding Relief Coalition, explains that both businesses and governments will have to spend millions to adjust their accounting systems to accommodate the change. Calling this "an unfunded mandate," he observes, "it's not free—it's not like you click a switch and turn it over and withhold 3 percent."

Braddock adds that it's a "steep road to climb to get repeal." In the current congressional session, 31 senators and representatives—including seven Democrats—have signed on as co-sponsors to House and Senate bills to repeal Section 511. The Senate Finance Committee and the House Ways and Means Committee are reviewing the legislation this spring, but these bills may not make it to a vote. Similar proposals to repeal Section 511 last year never made it out of committee. *Barbara J. Saffir*

ABI steady on—for now

When it comes to weather, March is usually in like a lion and out like a lamb—and when it comes to architectural firms' billings, the month is typically all lion, showing strong gains. But not this March, according to the American Institute of Architects' Architectural Billings Index, which tracked only a partial rise in activity over February. The ABI grew just 0.1 point, to 52.6 (any score above 50, though, indicates growth). This modest increase could indicate that the market was catching its breath after a stronger showing than usual earlier in the year. Another indicator that activity remains healthy was the number of inquiries made to architecture firms, which also held steady. The AIA compiles its ABI based on surveys sent to 300 firm leaders primarily in the commercial design sector. Studies have shown that the index is a good predictor for construction spending nine to 12 months in the future. *J.M.*


Business Conditions at Firms Hold Steady in March

Billings and inquiries scores over the past year
index: 50 = no change from previous period

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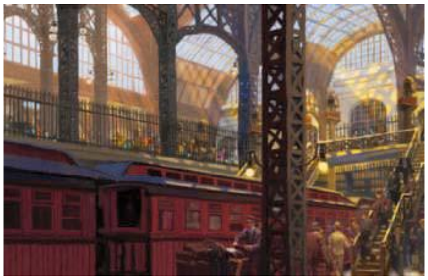

Pennsylvania Station's demise has inspired a children's book. "It's a reminder that buildings are not disposable—they are the heart and soul of all great cities," says William Low, author and illustrator of *Old Penn Station*, published in April. Low has only known the 1960s replacement station in Manhattan, but he hand drew and then photoshopped images that capture the dappled suffusion of light inside McKim Meade & White's 1910 commuters palace. *J.M.*

The Department of the Interior added a dozen sites to its list of National Historic Landmarks in April. They include Frank Lloyd Wright's Price Tower (left), finished in 1956 for an oil company in Bartlesville, Oklahoma. For a side show of all the newly named landmarks, visit architecturalrecord.com. *J.G.*

Preservation as Provocation, an ideas competition to increase awareness about the lack of preservation pedagogy, drew 975 registrants. Sponsored by the Association of Collegiate Schools of Architecture and others, it asked students to rethink Eliel Saarinen's Cranbrook Academy of Art library. Winners will be picked on June 1. "We're not trying to make specialists out of students, but we want preservation integrated into their general curriculum," says organizer Jorge Otero-Pailos. *J.M.*

Denis Glen Kuhn, FAIA, a partner in Ehrenkrantz Eckstut & Kuhn Architects, died on May 10 at the age of 65. Best known for preservation work, his projects included restoring Cass Gilbert's Alexander Hamilton Custom House in New York City, and Union Station in Kansas City, Missouri. A native New Yorker, Kuhn received his B.A. in architecture from Brooklyn's Pratt Institute. He is survived by his wife, Gudrun, three children, and four grandchildren. *Tony Illia*

Zaha Hadid gets top billing at this summer's Lincoln Center Festival in New York City. The annual presentation of performing arts this year includes the North American premiere of Ballet National de Marseilles's *Metapolis II*, a multimedia piece conceived by company director Frédéric Flamand in collaboration with Hadid, who designed the production's sets and costumes. The work incorporates dance, video, and architecture to explore the interaction of people and the urban environment. It will be performed on July 25, 26, and 27. *Leslie Yudell*

Olson Sundberg Kundig Allen Architects created a childrens' exhibition about Noah's Ark that opens this month at the Skirball Cultural Center in Los Angeles. Alan Maskin, a firm principal, designed the pairs of animals, which are made of repurposed and recycled materials, while Jim Olson, a partner, did the ark. The show explores flood narratives from cultures worldwide. *J.M.*

The American Institute of Architects elected new leaders at its 2007 National Convention in San Antonio last month, which drew 21,640 registrants. Delegates from local components nationwide selected Marvin J. Malecha, FAIA, as president for 2009, and Peter J. Arsenault, AIA, and Clark Manus, FAIA, as vice presidents. Hal P. Munger, FAIA, ran unopposed for the office of treasurer. The vice presidents and treasurer serve a two-year term that begins this December. *J.M.*

ENDNOTES

- Foster + Partners sold a roughly 40 percent stake to the group 3i, its first outside investor. The practice is worth a reported $600 million.
- A team led by Michael van Valkenburgh Associates won the Lower Don Lands competition to transform 2,400 acres of Toronto's industrial waterfront into housing and recreation spaces.
- Bill Clinton's foundation brokered a $5 billion loan and labor program to help landlords in 16 cities worldwide retrofit their properties with energy-efficient lighting and other building systems.

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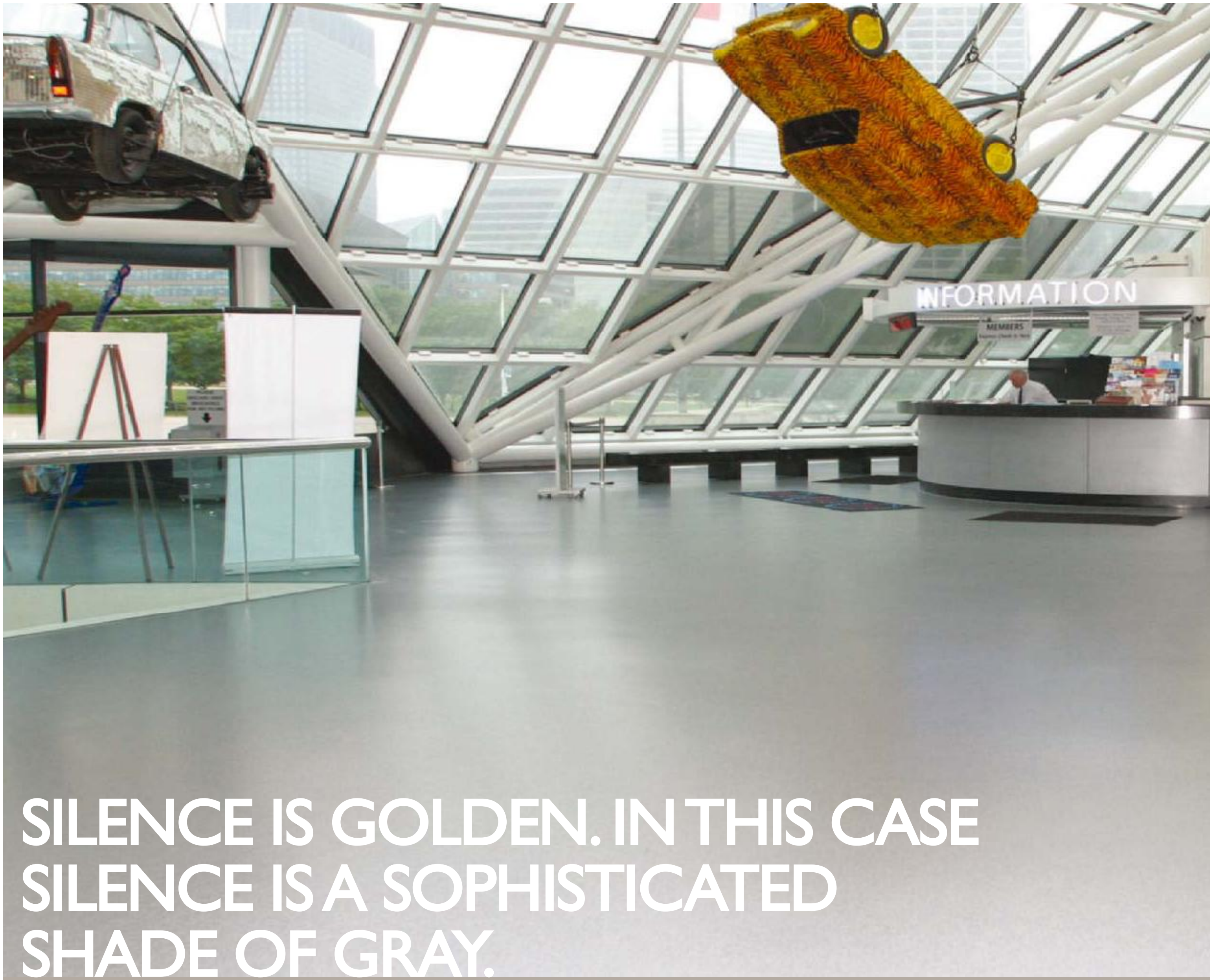

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In the world of design, theory, discussion, and practice meld to shape our physical environment. For New York City firm Caliper Studio, it's the making that inspires the passion, as they combine design services with metal fabrication. In Work, it's discussion about school design that caused the American Architectural Foundation and Target to team up and get students involved. Comment on articles, express your ideas, or add photos to our photo galleries at architecturalrecord.com.

Design

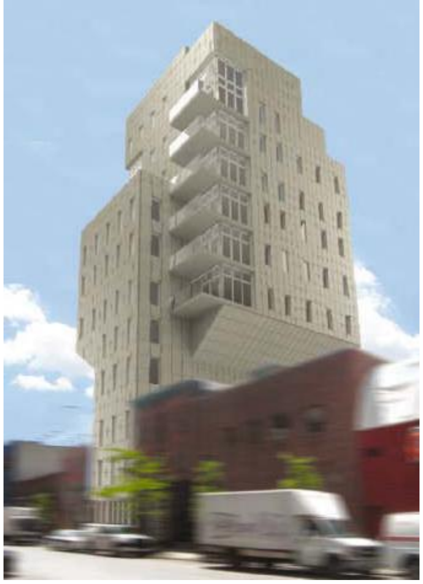
Caliper Studio: Making it with metal

With real estate prices skyrocketing throughout New York City, manufacturing and the large spaces it requires have all but disappeared from its urban centers. It's a surprise then to find Caliper Studio has not only found a light-industrial niche—what Stephen Lynch, one of the studio's founders, likes to call "micro urban manufacturing"—but is flourishing in it. Launched in 2003 by Lynch, fellow architect Jonathan Taylor, and sculptor Michael Conlon, Caliper Studio is the result of the trio's combined experience with and passion for architecture and metal fabrication. Now located in the Williamsburg section of Brooklyn, the firm consists of 15 full-time employees and runs a 7,000-square-foot workshop next door to its studio space.

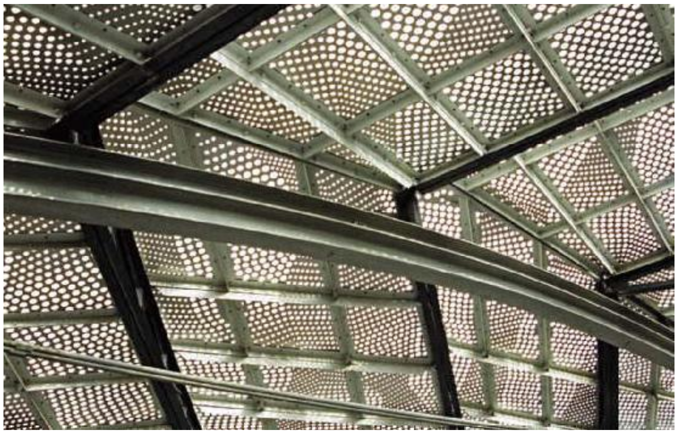
While Caliper started out with small building-component commissions, such as staircases, sliding doors, and metal canopies, it has recently designed a number of impressive ground-up construction projects, such as a condominium tower in Manhattan's swanky Highline district, as well as a movie theater and condo complex just down the street in Williamsburg.

Each of the studio's projects features clever metal accents. For the Brooklyn Kinetoscope, a backlit metal panel facade recalls the bright, flashing lights of old cinemas. The 1,296 metal panels on the Manhattan condominium facade are configured according to a complex algorithm.

The added intricacy of Caliper's projects means balancing the time in the shop with hours using BIM and parametric modeling. "We're getting into scripting, and involving more complex design in our drawings," Lynch says. "But the product can always be achieved with simple tools," notes Jean-Cedric de Foy, one of the firm's architects.

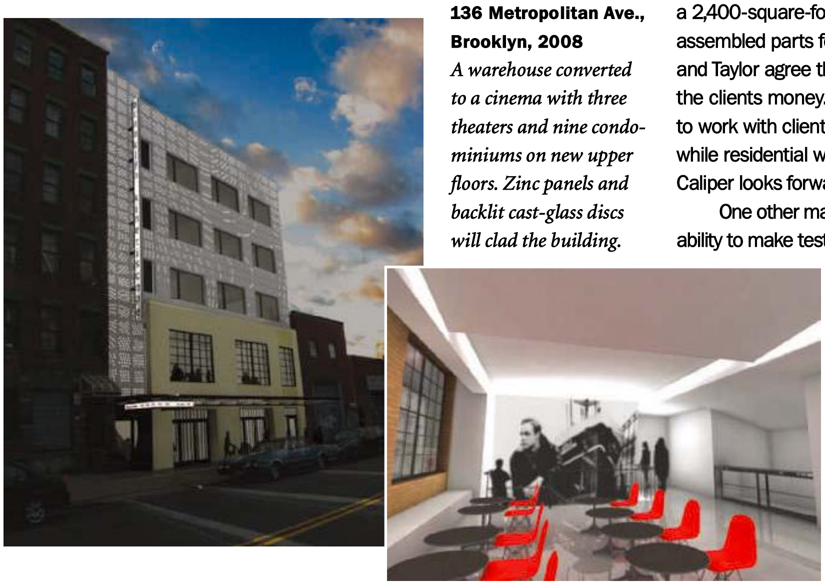


548 W. 29th St., New York City, 2009
Near the High Line in Chelsea, this 12-story condominium building will cantilever 12 feet over its neighbors on both sides. It has a folded metal facade with panels of varying height.



Lincoln Square Canopy, New York City, 2005
Built for a community center in a public housing development behind Lincoln Center, this prefabricated steel roof structure provides shade and dappled light.

IMAGES: COURTESY CALIPER STUDIO (TOP TWO); © MICHAEL GLENBOSKI (BOTTOM)



136 Metropolitan Ave., Brooklyn, 2008
A warehouse converted to a cinema with three theaters and nine condominiums on new upper floors. Zinc panels and backlit cast-glass discs will clad the building.

This initiative to match new design technology with age-old metal fabrication techniques is one of the firm's signatures. For example, Caliper designed a 2,400-square-foot atrium in Bridgeport, Connecticut, using 3D modeling, but assembled parts for the atrium's huge trusses with vintage equipment. Lynch and Taylor agree that this process not only saves the architects time, but also the clients money. And being able to quote lower prices has allowed Caliper to work with clients such as public entities, who have limited budgets. Indeed, while residential work has been the firm's bread and butter in the recent past, Caliper looks forward to working on more public projects in the future.

One other major advantage of having a shop right next to the studio is the ability to make test models. While most architects use their drawings to describe their intentions, Caliper frequently exercises its ability to work on concepts and materials with physical samples. Standing among the many models made in the workshop that now line office tables, Taylor explains that this unique situation has made all the difference in the work that the firm does: "We couldn't be the kind of designers we are now without our fabrication background." Caliper seems less like the last survivor of a dying breed than the cutting edge of architectural practice. *Diana Lind*

For additional photos and projects by Caliper Studio, go to ***architecturalrecord.com/archrecord2/****.*

Work

Great Schools by Design hits the spot

In this age of accountability for American teachers and testing achievement for their students, it makes sense that school buildings should also meet 21st-century standards. However, many of the United States' 120,000 schools are in disrepair or otherwise unsuited for today's tech-savvy teaching. For the past two years, a program called Great Schools by Design, which is administered by the American Architectural Foundation and sponsored by the Target company, has been trying to change that. Working with 60 school districts, including some in the hurricane-ravaged areas of the Mississippi Gulf Coast, the program matches school leaders with architectural innovators. This year, the AAF/Target team has added a new program to its repertoire: the Redesign My School contest.

The competition, which began March 1 and is open to participants until the end of June, puts school redesign in the hands of students in grades 9 through 12. The winner of the contest will be awarded a $10,000 college scholarship, seven finalists will receive $5,000 scholarships, and 20 semifinalists will get Target gift cards.

"We wanted to get students involved in a creative way," says Ron Bogle, Hon. AIA, president and C.E.O. of the AAF. "The purpose of the contest is to help elevate the national discussion about schools and raise awareness. And we want to hear from students what it is they'd like in a school, because students aren't part of focus groups." He also notes that the contest will encourage students to consider architecture as a career.

Getting kids involved in the national discussion about school design is key to the competition.

Partnering with Target has allowed the AAF to reach a broad audience, and within the first week of the redesign yourschool.org Web site going live, 2,500 students had registered for the contest.

Laysha Ward, vice president of community relations for Target, explains that this contest is another extension of the company's mission to democratize good design. "This program brought together two of our major philanthropic areas: education and design. It supports our commitment to having children be prepared for success and of making design available to all," she says.

Fifty other organizations and institutions, such as the AIA and the National School Boards Association, have also offered to promote the program. This is the largest contest of its kind (although similar ones have been held in Britain and Australia), and as Ward notes, it's the only one to "lend a voice to all the school stakeholders—teachers, parents, civic holders, and even corporate leaders."

While the contest ends this summer, the AAF will study the entries afterward to develop an analysis of the students' ideas. *Diana Lind*

To learn more about Great Schools by Design and the American Architectural Foundation, go to ***architecturalrecord.com/archrecord2/****.*

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Can an indigenous culture survive in a jungle petropolis?

Critique

By Michael Sorkin

Pink Floyd was playing on the loudspeaker of the ferry transporting us over the Rio Napo into the 2,700-square-mile Yasuni National Park in the Amazon basin in Ecuador's El Oriente region. We had missed the previous ferry after making hours of slow progress over rutted roads through a largely denuded countryside, then had to kill an hour in a shoreside scene of extreme informality—hot sun, muddy, littered paths along the river, lazing dogs, scattered houses, a little shop, and a dirt parking lot for waiting vehicles. The scene on the other side, however, was more like Guantanamo. From the dock, my students from City College and I walked along narrow chain-link passages topped with razor wire, passed though a magnetometer, had hand luggage X-rayed and passports balefully compared to a list sent in advance, and watched our bus be taken into a camouflage-painted metal shed for the once-over. No Coke stands or pleasantries here. Instead, there were gun towers, searchlights, signs forbidding alcohol and drugs, and M-16-toting men from the Ecuadorian army and private security firms with Orwellian names like Servisafe and Servipro. An unexpected gateway to paradise.

Yasuni is one of the most biodiverse areas on the planet—a UNESCO "world biosphere reserve"—a river-laced rain forest teeming with life and home to the indigenous Haorani people. And to oil. Crossing the river, we were entering Block 16, one of the giant concessions that have platted Oriente since 1967, when a consortium of Texaco and Gulf discovered huge oil reserves there. By mid-1972, exploitation was in full swing and a 312-mile-long pipeline had been constructed from the now-booming village of Neuva Loja (universally called Lago Agrio—Bitter Lake—after Texaco's headquarters in Texas) to the coast from which the crude is shipped abroad, primarily to the U.S. The high security was intended to protect this resource, to secure the jungle against incursions by terrorists, smugglers, narcotics traffickers, poachers, loggers, and settlers. Of course, it did nothing to protect the area from the traumatic impact of petroleum itself.

The effects of oil on the Ecuadorian landscape have been profound. On the one hand, oil has fueled a boom economy which, especially in the go-go 1970s and '80s, generated much middle- and upper-class prosperity and government investment in public infrastructure. On the other, oil has been an environmental disaster, say people living in the area. Thousands of square miles of rain forest have disappeared. The lives of numerous indigenous peoples have been forever disrupted. And vast areas have become toxic. According to a class-action lawsuit filed in 2003 against the oil companies by 30,000 settlers and people indigenous to the Amazon, Texaco and its successor, Chevron, have not just spilled oil in the jungle (more than what leaked from the Exxon Valdez), but also dumped billions of gallons of toxic wastewater. Much of the oil is extracted via the injection of water under high pressure, and rather than following the standard practice of deep re-injection of wastes, the company simply dumped it in ground-level pits, says Judith Kimmerling in her book *Amazon Crude* (1990). Plaintiffs in the lawsuit claim these practices have had severe consequences on the health of people living in the area. The lawsuit, which attempts to recover the cost of the estimated $6 billion cleanup, continues to work its way at a snail's pace through the courts, as does an Ecuadorian gov-

Contributing editor Michael Sorkin is the director of the urban design program at City College of New York.

Roads open the jungle (right) to many kinds of development and change the ecological and cultural balance. Heavy machinery (below) makes quick work of creating a jungle urbanism that includes new towns, camps, and settlements (below center) and large oil facilities (below right).

PHOTOGRAPHY: © GARETH MAHON (TOP AND BOTTOM RIGHT); DAVID LEVEN (BOTTOM LEFT); JOHN HILL (BOTTOM CENTER)

ernment suit claiming fraud on Chevron's part.

The oil concessions—covering thousands of square miles—have a very specific spatiality, a format that is, by stages, turning the forest not simply into a degraded, toxic environment but into an urbanism, a city of a new "disarticulated" character that combines webs and nodes, formality and informality, density and dispersion. Its components include grids of seismic trails (10-foot-wide pathways in which a 6.5-to-16-foot-deep hole is dug every 328 feet to hold 22-to-44 pounds of dynamite for acoustic exploration), networks of wells and toxic dumps, pumping stations, refineries, tank farms, pipelines, helicopter landing zones, airports, roadways, security checkpoints, military installations, and a proliferation of camps, depots, towns, and villages. In an environmental lawsuit filed against Atlantic Richfield in 1993, the plaintiffs inventoried—in this one concession—339 wells, 18,000 miles of seismic trails, 300 miles of roads, 600 toxic-waste pits, and 1,368 helicopter landing sites. Welcome to Petropolis.

The roadways slashing through the rain forest instigate both extraction and attraction, becoming the medium for still larger territorial reorganization. As roads are built, forest is cleared to make way for three rows of agricultural plots, each 820 by 6,562 feet, creating a space 7.5 miles wide and, in aggregate, hundreds of miles long, a vast linear settlement occupied by *colonos* from elsewhere in the country—well over a quarter million have poured into Oriente since the discovery of oil. Much of this is pasture land: rainforest soils are a poor basis for conventional agriculture, and clearing the jungle dooms the richly symbiotic biodiversity it supports. The pattern brings a new economic organization as well as new styles of agricultural activity, new homesteads, new villages, and new towns. Much like the Jeffersonian gridding of the American west, the remorseless geometry of subdivision accomplishes a dramatic literal and conceptual shift: What was once "wilderness" becomes urban, part of a global system. The long miles of farms and villages in the cleared jungle and the check-point at Block 16 are part of the same Petropolitan urbanism that produces the freeway morphology of Los Angeles and Houston and the glittering skylines of Dubai or Kuwait City.

Of course, an urban environment requires urban citizens, and the boom has attracted hundreds of thousands. But what of those already there and their sedulously un-urban lifestyles? Two years after Texaco discovered huge reserves of oil in Oriente, the Ecuadorian government created a protected "reserve" for the Huaorani. Desperate to cash in on the oil but anxious about the potential cauldron of conflict between native peoples, oil workers, and the accelerating influx of settlers and tourists, José Velasco Ibarra, the president at the time, handed the protectorate's administration to the Sumner Institute of Linguistics, a Protestant evangelical group that has been active in Ecuador since the 1950s and specializes in the translation of scripture into native languages.

Like that of their missionary predecessors from centuries past, the Sumner Institute's tragic endeavor entailed forcing the "natives" into villages, establishing schools with the Bible at the center of the curriculum, and introducing capitalism. The results included forest clearing for larger fields, agricultural specialization, a money economy, plus the rapid introduction of alien cultural forms, from trousers and radios to beer and zinc roofs. The natives were urbanized, made into model citizens for a new order. Resistance was not long in developing, and there were numerous instances of speared priests and oil-workers. More important, there has been remarkable grass-roots political organization and consciousness-raising by native peoples, a crucial result of which was the formation in 1986 of CONAIE, the Confederation of Indigenous Nationalities of Ecuador, which has now become a major political power working on behalf of both human and environmental rights.

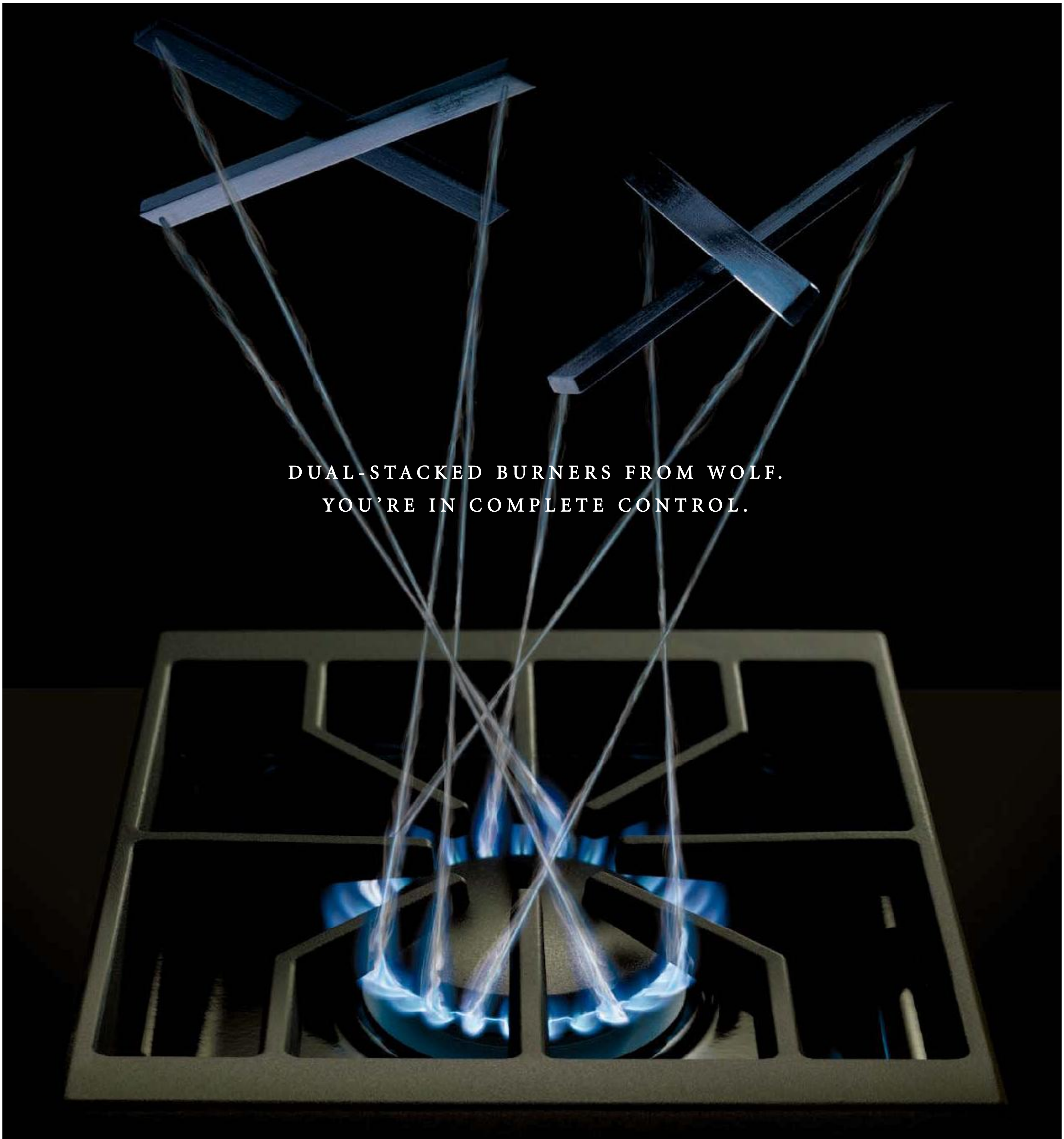
In 1989, the Ecuadorian government, faced with declining oil prices and eager to keep its revenue stream flowing, prepared—with financing from Conoco Oil—a new "management" plan for the as-yet-untapped Yasuni Park, under which half was zoned for oil-company use, the other half for the Huaorani. In 1993, a modified plan was put into place in which the Huaorani were nominally incorporated into the administration of the combined entity. For them, this meant jobs as security guards (in their own formerly peaceable homeland) and oil workers. It also meant new—and desperately inappropriate—houses for some, generally clustered in what can only be described as concentration camps. This for a people that has, for millennia, lived nomadically. In addition, it brought the ravages of imported diseases and a rapid education in modernity.

This is not the place to settle the question of the rights of indigenous people or to debate the respective arguments for literacy, technology, and participation in national life versus the logics of protecting the ability of "primitive" peoples to defend and continue historic patterns of settlement and life. The point is simply that the lives of these people have undergone tremendous rupture and their culture sent down the road to extinction on the basis of somebody's idea of the greater good—that of the Ecuadorian economy, which continues to float on oil (as it had earlier done on monocultures of cacao and bananas). Oil sales provide close to 50 percent of government revenue (about half of which goes to the military). And since the final nationalization of oil in 1989, the oil economy has put the government in the admirable position of actually owning the source of its own revenue.

The machinations in Yasuni, with the repeated redrafting of the borders of the park, the concessions, and the ethnic reserves (for a people whose imagery did not house the concept of such boundaries) are part of a broader system of overlapping territories defined by relations of property that inscribe in the jungle the patterns of modern space and exchange. Northern Oriente shows all of this raised to a flashpoint of toxic weirdness. Those troops in Yasuni were not simply protecting the oil but keeping out the cocaine industry (increasingly forced toward and over the Ecuadorian border by the U.S.-sponsored "Plan Colombia") and its own networked system of extraction and distribution along a parallel labyrinth of roads, airstrips, laboratories, villages, and flows of capital.

Like any city, this one overlays infrastructures, territories, interests, technologies, densities, communities, histories, and morphologies. Its differences from the "post-urban" edge cities that have become the characteristic mode of urban growth in so many parts of the world are not of kind, simply of degree. Both patterns are environmentally corrosive and conceptually predicated on the domination of distributed rather than concentrated systems. And both are based on a model of urban development that privileges extraction—of oil, cocaine, or land values—over sociability, permanence, or culture. Although only half the world's population—by traditional means of measure—lives in cities, the planet itself is immeasurably more urbanized.

Yasuni and the Amazon basin throw this into such sharp relief because the rain forest remains our paradigmatic "state of nature"—the antithesis of urban civilization—and because as our green sensibility grows (and the jungle disappears) we have come to understand the degree to which our own survival depends on the fate of the forest. In much the same way, respect for indigenous peoples and traditions is an emblem of our understanding of the risks of globalization's obliteration of difference and freedom of economic action. The Huaorani are probably doomed, but in their demise, it is urgent that we see ourselves.■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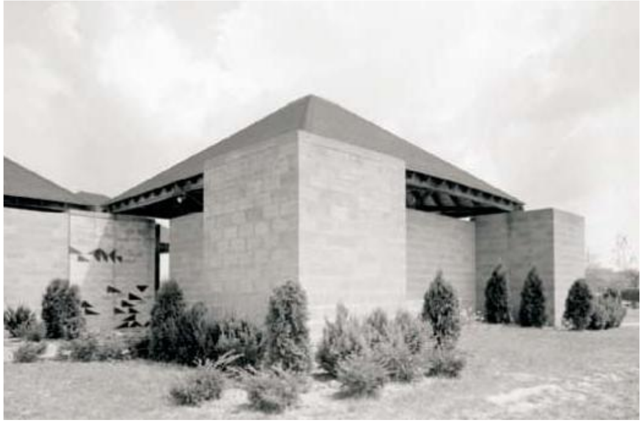
Louis Kahn's Trenton Bath House in New Jersey is fondly remembered

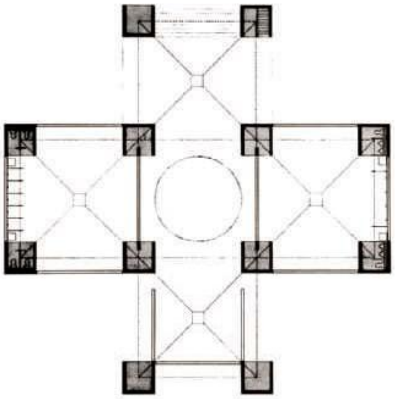
Commentary

By Paula Deitz

Last September, on Labor Day, I took the train down to Trenton, New Jersey, to lounge by the pool at the Jewish Community Center of the Delaware Valley (formerly the Trenton Jewish Community Center) on its last official open day before the entire complex was sold to local authorities. As I approached the compound through the Bath House designed by Louis I. Kahn in 1955, now in a derelict condition, I had a clear memory of the first time I entered the changing room for women in 1956 as a counselor at the center's day camp. With my young charges in tow, I rushed into this luminous space with sunlight pouring through the open clerestory under the timber rafters and through the square oculus in the roof suspended above. A summer airiness pervaded this square enclosure of simple concrete blocks as the girls squealed and ran around in unrestricted freedom.

My mother served on the center's Construction Committee, which selected Kahn as the architect in 1954, and I remember her returning from evening meetings dazzled by his presentations. From then on, Kahn became a household word since my father, a vice president of the Trenton Jewish Community Center Association, championed the construction of the Bath House ahead of the center's main building; the outdoor swimming pool was considered a luxury in those days, tantamount to a country club. In an editorial in the center's newspaper, my father wrote: "The intensive work of the committee followed by the outstanding planning of our architect, Louis I. Kahn of Philadelphia, will give to us a recreational facility that will be second to none, anywhere in the country.... Why wait two years hence to have this opportunity when we can have it now at no extra cost?" I was reminded of this editorial by Susan G. Solomon's book, *Louis I. Kahn's Trenton Jewish Community Center* (2000), a remarkably insightful detailed study of the sociological and architectural story behind the center's move from downtown Trenton (and an indoor swimming pool) to a campus in suburban Ewing Township.





Louis Kahn's Bath House (above) at the Jewish Community Center of the Delaware Valley (formerly the Trenton Jewish Community Center) was designed in 1955 as four pyramidally roofed pavilions in a Greek-cross plan.

Being a native Trentonian has put me in good stead over the years with architect friends from as far away as Japan: I have led many a tour back to the Bath House, even in the middle of winter. During my September visit, I recalled the 1978 show of Kahn's glowing travel sketches at the Drawing Center in New York City along with subsequent exhibitions that revealed his experience abroad as a resident architect at the American Academy in Rome in 1950–51.

From his pastel studies of ancient ruins—stone masses defined by light and shadow—Kahn would evolve his brand of Modernism subsumed by the forms of Classical humanism. Little did we youngsters in Trenton realize in the 1950s how pivotal the Bath House was as Kahn's first work to synthesize ancient forms into pared-down masonry structures. Its four pyramidal roofs sharply delineated against the sky evolved from pyramids he drew at Giza. Kahn told *The New York Times Magazine* in 1963, "I discovered myself after designing that little concrete-block bath house in Trenton." Later in 1973, a year before he died, he jotted down these enigmatic lines in his notebook: "The Pyramids seem to say 'let me tell of the desire that motivated being and the meeting with Nature in order to be.' "

Of the Bath House's five square areas in the Greek-cross formation, only the central square, or atrium, is roofless. The four outer hip roofs float above hollow column supports that became the baffled entrances to the changing rooms opposite each other in Kahn's innovative system of creating secondary interior spaces that serve other spaces: the servant and the served. The

Paula Deitz, the editor of The HudsonReview *frequently writes about landscape and architecture.*

PHOTOGRAPHY: © JOHN EBSTEL (TOP); RENDERING: COURTESY LOUIS I. KAHN COLLECTION, UNIVERSITY OF PENNSYLVANIA AND THE PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION (BOTTOM).

entrance square functions as the check-in room, and the far one is an open lounge area with a ceremonial staircase to the raised pool. At the main entrance, Kahn painted an abstract, Adolph Gottlieb-style mural, no longer there. He had envisioned a Classical rectangular grove of trees as a forecourt leading to the Bath House, but it was turned down in favor of suburban-style shrubbery, which has hastened the concrete blocks' deterioration due to moisture. Vincent Scully attributed the original taut circle of gravel within the square courtyard of the atrium to Kahn's embrace of Vitruvian Classical theory illustrated by Leonardo da Vinci's drawing *Man of Perfect Proportions,* circa 1492.

I left Trenton for college and life's other adventures after my Bath House summer, so I was no longer around when Kahn designed and completed the second stage in 1957, referred to as the Pavilions or the day camp, and constructed in a back woodland area. Now fenced in for safety purposes, they face two other pavilions enclosed with brick: one for the director's office, the other for the camp's rest rooms. When I walked over to see these shelters on Labor Day, the crumbling concrete colonnades of the two open pavilions, set at a slight angle to each other, eerily resembled the ruins of the powerful Doric columns in Kahn's drawings of the mid-6th-century-B.C. Temple of Apollo in Corinth. According to a passage quoted by Solomon in her book, Kahn compared these open shelters for campers to the stoae of ancient Greece.

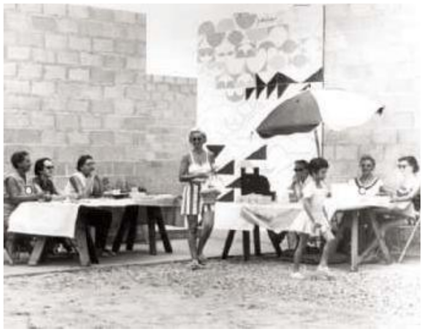
As the story goes, a shift in leadership on the center's Construction Committee, followed by escalating costs and a widening gap in understanding between client and architect, resulted in Kahn's eventually losing the commission to build the center itself. Architects Kelly & Gruzen completed the present structure in 1962. This in no way diminished the importance of the Bath House and the Pavilions, and Kahn's drawings of them along with the multiple design stages for the main building have been prominently displayed in major exhibitions of his oeuvre ever since.

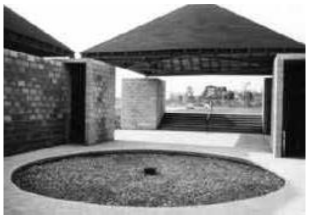
For some time, with news of the potential sale of the Jewish Community Center and its campus, the future of the Bath House had been a cliffhanger and a worry to the architectural community, particularly after the world was given a poignant close-up view of its present condition in Nathaniel Kahn's film *My Architect: A Son's Journey*. In the film, Kahn's son is taken on a tour of the clearly dilapidated facility by Anne Tyng, who was the associate architect on this and other projects.

Thanks to the efforts of Susan Solomon, who discovered the Bath House when she oversaw the architectural slide collection at Princeton University, and a graduate student, Lydia Soo, the building was placed on the National Register of Historic Places in 1984, the same year it received minimal protection from the Ewing Township Historical Commission. Even so, the nonprofit organization Preservation New Jersey cited the moss-covered building in 1997 as one of the 10 most endangered historic sites in the state. Since the area was zoned for residential use, nothing would have prevented a developer from simply cordoning if off or eventually tearing it down when it was deemed ruinous. The organization Docomomo drew attention to the problem in a newsletter, and Solomon organized a worldwide letter campaign to put pressure on all the parties involved during negotiations that had moved slowly over a period of a few years.

While stories like these usually end in a dismal fashion or, at best, by reclamation with a creative reuse, the future of the Bath House has, fortunately, been secured by an enlightened and elegant solution that, best of all, guarantees its continued use as a bath house for a swimming pool, albeit in a renovated condition. The man of the hour is Brian M. Hughes, the county executive of Mercer County and son of former New Jersey governor Richard J. Hughes.

The county purchased the 36-acre property, its largest yet, with funds from the Open Space Preservation Trust Fund, while Ewing Township acquired the main building on 2 acres as a senior center. Mercer County then transferred ownership of its property to Ewing. The transfer comes with a conservation easement to protect its outdoor character as a municipal park with a public swimming pool, and a historic-preservation easement to protect the Bath House and Pavilions. The county also anticipates funding from the state's Green Acres Program completing financing at the state, regional, and municipal levels. Finally, an application will be filed with the New Jersey Historic Trust for funds toward the restoration of the Kahn buildings.





On July 31, 1955, the pool and Bath House opened to its members (left). At the center of the Pavilions is a square space inscribed with a gravel circle, which Vincent Scully finds evocative of da Vinci's famous *Man of Perfect Proportions*, circa 1492.

"Greater Trenton possesses a unique spectrum of historic buildings," explains Hughes, who valued the opinion of local architects assuring him of the significance of the Kahn buildings. He now sees them as a boon to architectural tourism.

In 2003, the Princeton, New Jersey, architecture firm of Farewell Mills Gatsch drew up a million-dollar preservation plan, which has now been updated, with extensive documentation for the Bath House and Pavilions laying the groundwork for future restoration and rehabilitation.

Meredith Bzdak, one of the architects involved, immersed herself in the job by changing in the Bath House and sitting by the pool to take the measure of the building and the patterns of light on the walls. "It was unlike any other experience in architecture to observe how he achieved his goals—a Classical order, yet romantic and natural—with simple materials," she says. Still, the restoration will be complex due to new drainage systems, reconstruction of interior walls, the restitution of the abstract, painted mural, and introduction of Kahn's intended landscape setting of a grove of trees.

When Nathaniel Kahn began shooting material for his film, he did not feel he had to see the Bath House right away, assuming it was not Kahn's most important building because it was so small. "When I finally did see it with Anne Tyng," he recalls, "I was knocked out by it and understood immediately the magnitude of the breakthrough for my father and its enormous impact on the development of architecture." He admired how Kahn achieved so much without a single door or window and solved the problems and challenges set forth by the program.

"At a deeper level," Kahn's son says, "that a building can be both ancient and modern and so small, with a simple and mundane purpose, was both emotionally and intellectually moving." ■

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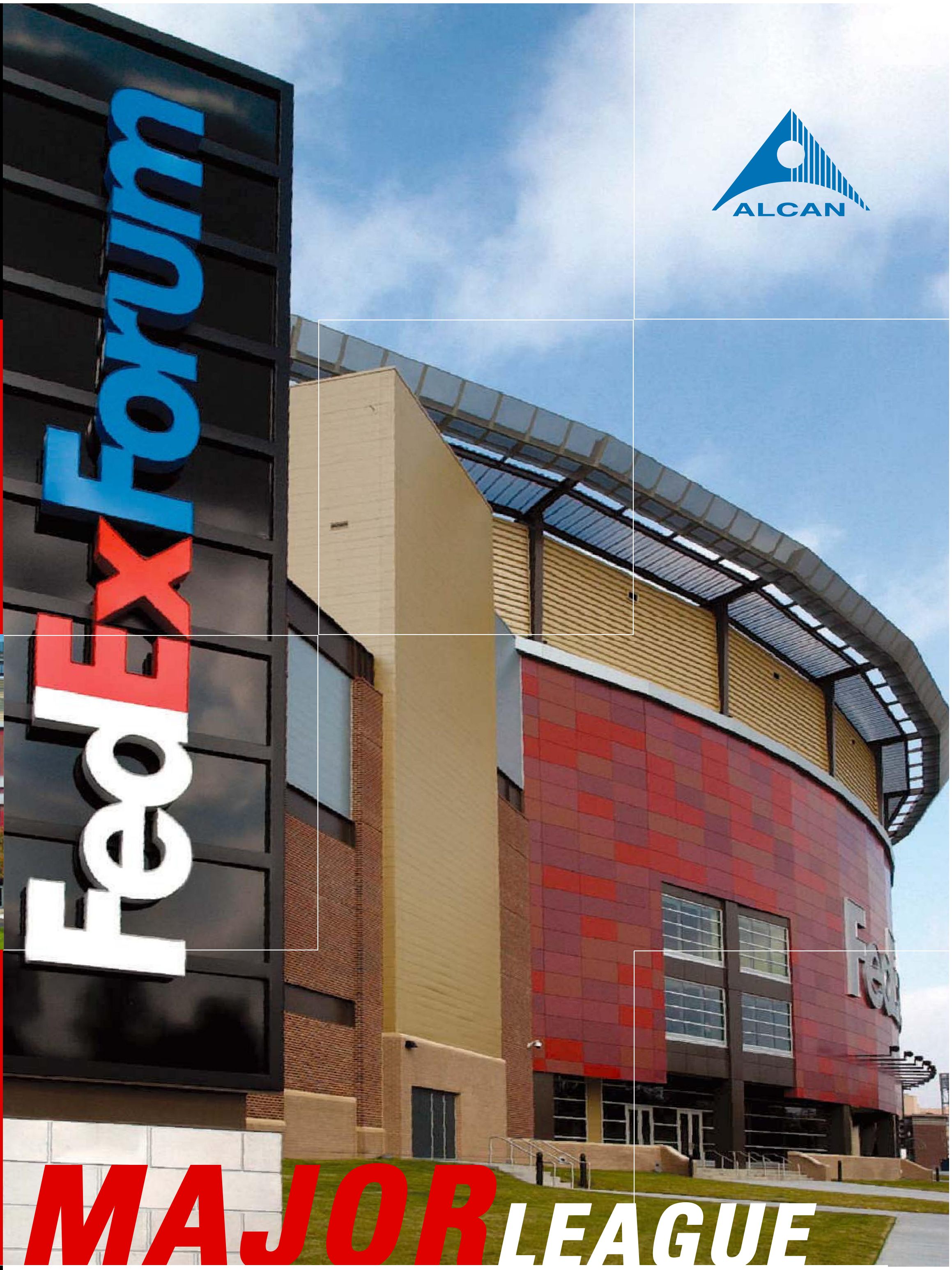

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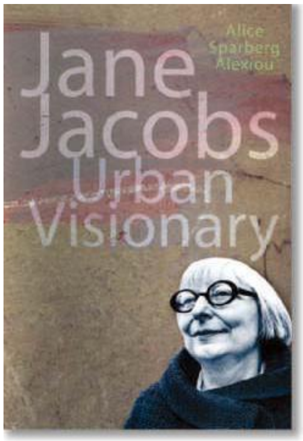
Telling the story of a preservation pioneer and the city she loved

Books

Jane Jacobs, Urban Visionary, *by Alice Sparberg Alexiou. New Jersey: Rutgers University Press, 2006, 233 pages, $25.*



Few writers or architects have had more influence on a city than Jane Jacobs had on New York with her first book, *The Death and Life of Great American Cities*, and with her grassroots activism, which stopped the “urban renewal” of Greenwich Village and the destruction of SoHo, Chinatown, and Little Italy by the proposed Lower Manhattan Expressway. Eventually, her views became conventional wisdom nationwide. A book about her writings—and her—is long overdue.

Alice Sparberg Alexiou aptly summarizes *Death and Life* and provides the intellectual and political context in which it appeared in 1961. She brings the spunky activist to life on the page even though Jacobs refused to cooperate with her (or anyone else), contending that she wanted to save her time for writing. Alexiou offers glimpses of the private person that Jacobs (1916–2006) tried to keep from the public eye—showing her, for example, tenderly nestling one of her children at a time when she defiantly demonstrated in the streets—and captures her odd combination of moxie, wit, perseverance, and eloquence. And she shows how Jacobs’s way with words was crucial to her successes.

She explains how Jacobs’s childhood in Scranton, Pennsylvania, as the daughter of an independent-minded doctor and a nurse, instilled in her the values and confidence to achieve what she did, even without a college degree, and how her marriage to architect Robert Jacobs provided needed psychological and financial support. Alexiou writes about the Jacobs family’s move to Canada during the Vietnam War with their draft-age sons (and daughter); and Jacobs’s life in Canada, where she became a citizen in 1974; and briefly describes Jacobs’s six later books. But three quarters of this biography is devoted to *Death and Life*, which most readers already know, and to Jacobs’s similarly well-known activities in New York right after it was published. The next 37 years of her life and her significant later work get scant treatment, even though her ideas about intellectual capital, cities as economic engines, localized commerce, and ecology are now very much in vogue. *Jayne Merkel*

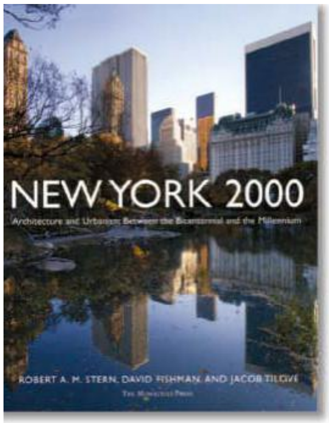
New York 2000: Architecture and Urbanism Between the Bicentennial and the Millennium, *by Robert A.M. Stern, David Fishman, and Jacob Tilove. New York: Monacelli Press, 2006, 1,520 pages, $100.*

After 20 years and help from a host of cowriters and researchers, Robert A.M. Stern’s *New York* series is complete. It now spans the whole of the city’s architectural history from the Civil War to the present in five hefty volumes, of which *New York 2000* is the biggest and most ambitious. Like its predecessors, it runs a mad dash through a generation of urban life and the city’s new buildings, with the criticism that greeted them.

As with the series’ previous volumes (1880, 1900, 1930, and 1960), an introduction sets the scene. The survey of buildings begins in Lower Manhattan, then drifts steadily up the island and beyond to the outer boroughs. A band of journalists acts as chorus in the metropolitan drama; where the preceding volumes had their Van Rensselaers and Mumfords, this one has the trio of Muschamp, Goldberger, and Huxtable.

Several problems are unique to the present volume. One is the glut of available information, despite omissions here on everything from subways to architectural exhibitions. The book also enters a crowded field of recent literature on New York history, and it doesn’t always benefit by comparison. Stern’s history lacks the depth of Edwin Burrows and Mike Wallace’s *Gotham* or Kenneth Jackson’s *Encyclopedia of New York City*.

Then there is the question of *New York 2000*’s objectivity. Stern, teamed with David Fishman and Jacob Tilove, writes here about his contemporaries, a delicate business in which casual judgments can seem like professional biases. What’s more, *New York 2000*’s underlying story is New York’s redemption after the decline chronicled in *New York 1960*. And while the improvement is unquestionable, no city is without its problems, and future readers may come to regard Stern’s triumphalism as facile.


NEW YORK 2000
Architecture and Urbanism Between the Bicentennial and the Millennium
ROBERT A. M. STERN, DAVID FISHMAN AND JACOB TILOVE
The Monacelli Press

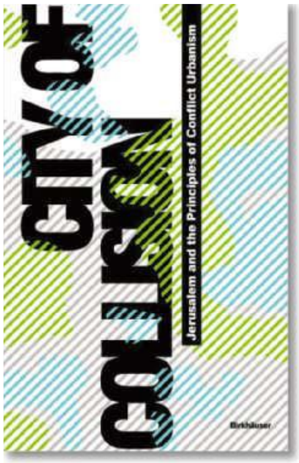
But whatever the authors’ prejudices, they are overshadowed by the quantity of the research and the ease of its prose. Reading *New York 2000* is a pleasure, and its creators have performed a public service. *Ian Volner*

Books

City of Collision: Jerusalem and the Principles of Conflict Urbanism, *edited by Philip Misselwitz and Tim Rieniets. New York: Birkhäuser, 2006, 384 pages, $50.*

Throughout history, Jerusalem has been a contested city. *City of Collision, Jerusalem and the Principles of Conflict Urbanism* demonstrates that today, as a result of eight years of particularly violent contest, that city is taking on particularly tragic and at times bizarre urban form.

The book as a project was supported by a consortium that includes the Berlin University of the Arts, Zurich's Institute of Urban Design, and Jerusalem's International Peace and Cooperation Centre and Bezalel Academy of Art and Design, plus several distinguished foundations. The book represents the collective efforts of over 37 authors, mostly Israeli and Palestinian, from a variety of disciplines and perspectives. Together they document, analyze, and try to make sense of Jerusalem's changing spatial configuration. Despite their different points of view, none applauds the new status quo imposed by the Israeli state.



City of Collision is dense with information. It begins by looking to the Ottoman era (1517–1917), a period of much greater social equity and peaceful relationships that cannot but impart feelings of loss and nostalgia. The book then analyzes Jerusalem through a series of chapters that combine dispassionate analysis and heartrending personal narratives.

Jerusalem today is not just the ancient historic city but a regional enclave that has annexed surrounding villages, suburbs, and territories into a sprawling entity gerrymandered by walls, fences, and barriers to create separate zones where people live unequal but parallel lives. This is nowhere better communicated than through the maps and charts that are perhaps the best and most original part of this book.

These images communicate, better than the text, the disturbing disparity and inequity that exists for the residents of Jerusalem. The maps, charts, and diagrams describe with cold objectivity subjects grouped into the categories of "Conflict and Urban Transformation," "Hosh [house] and Apartment," "Mobility and Immobility," "Fear and Assertion," "Growth and Decay." The bizarre formal reality of the separation is most apparent in the map entitled "Archipelago" where wall/fence/barriers follow the 1948–67 Israel-Jordan Armistice Line, twisting and looping to form a variety of tightly encircled enclaves isolating impoverished Palestinian urban areas from well-serviced Jewish ones. The result is an apartheidlike theory of planning.

It is hard to come away from *City of Collision* with any measure of optimism for the future of Jerusalem. There seems to be little promise for the Promised Land. However, the broader implications of *City of Collision* are more disturbing. With the terrorist attacks in New York, London, and Madrid making security a forceful element of urban planning worldwide, Jerusalem may be a harbinger of things to come.
John A. Loomis

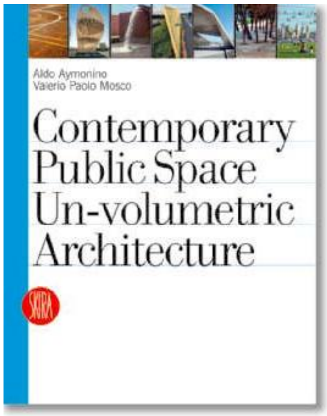
Contemporary Public Space: Un-volumetric Architecture, *edited by Aldo Aymonino and Valerio Paolo Mosco. Skira, 2006, 250 pages, $34.95.*

At the end of his introduction to *Contemporary Public Space: Un-volumetric Architecture*, Aldo Aymonino proclaims that architecture's "underlying ethical role [is] providing a social service." If you subscribe to the notion that designers serve society best by reinterpreting the function of public space with every technological advance or by imparting a scripted experience to users, then you will be satisfied with the images and essays that follow. If, however, you value public spaces where spontaneity flourishes and users enjoy the freedom to create their own experience, *Contemporary Public Space* will severely disappoint.

The book consists mainly of 100 project profiles, each typically given a two-page spread. For every project that performs as a usable space, such as Rio de Janeiro's Copacabana Promenade—a waterfront boulevard that successfully links the fabric of streets and buildings to the city's beaches—there are several instances of misguided hubris, typified by Wes Jones's risible proposal to elevate San Francisco's Union Square over a parking garage.

As you progress, *Contemporary Public Space* reads like an exercise in categorization. The authors assign the selected projects to 10 sections, each more artificial than the last. By the time you reach the technology section, which touches on the design of wind turbines and high-tension pylons, the connection to the supposed subject of the book has been completely severed.

Part of the problem lies with the term *unvolumetric architecture*, because it gives the authors license to include almost any structure; they proceed to make un-volumetric architecture far more central to the book than the study of public space. That is fine if your goal is to advance intellectual concepts within a highly specialized network of theorists. But if architects are to provide a vital social service, they will have to engage a broader audience, especially when tackling a subject of such universal importance as public space.



Rather than investigating the topic at a theoretical remove, *Contemporary Public Space* could have plunged into the story of how designers, local governments, and the public are joining forces to create usable gathering places. If the authors had pursued such an objective, they might have profiled interventions such as Paris Plage, which temporarily transforms the Pompidou Expressway into an urban beach, or London's recent pedestrian improvements to Trafalgar Square. These projects, part of citywide efforts to improve the public realm, have tapped into a deep-seated hunger for comfortable, socially fulfilling, and active public spaces.

We would argue that the ethical role of architects is to collaborate with communities in satisfying this appetite. Judging by *Contemporary Public Space*, they have a long way to go.
Fred Kent and Ben Fried

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Top 150 Architecture Firms' 2006 revenues total $8 billion

Practice Matters

By Charles Linn, FAIA

Each year RECORD publishes the Top 150 Architecture Firms list, based on information collected by its sister publication, *Engineering News-Record*, for its *Top 500 Design Firms Sourcebook*. According to the latest survey, 2006 was a good year for architects, who reported a combined $8 billion in revenues. (Incidentally, there was a five-way tie for the 147th spot, so 151 are listed.) The 15 firms at the top of the list earned 37 percent of that, about $3 billion. To put those figures in context, it is helpful to know that architects' offices with more than 100 seats make up only 2 percent of all firms, and yet these firms place 34 percent of total billings, according to the most recent AIA Firm Survey.

The accompanying table lists the amount of revenue each firm reported from its domestic and international work, and provides a total for them. Because the list captures many firms that have sizable architecture practices but are also involved in engineering and contracting, the percentage of revenue the firms say was derived from architectural work only is noted in the table. This total includes revenue from interior architecture, and also revenue that is passed through to other design consultants.

Gensler holds the number one spot on this year's list, with total revenue of $500.2 million. AECOM Technologies held the top spot last year [RECORD, July 2006, page 42]; however, while AECOM does own architecture firms, the questionnaire submitted by the company did not indicate how much of its revenue was earned by these businesses, so it is not on this year's list.

Although publication of lists such as this often serve as a reminder that bigger is not always better, the cream of the crop must be doing something right. The AIA Firm Survey indicates that repeat business is the greatest source of new work, and these firms are steady earners—13 of last year's top 15 remain on the list this year.

Only 24 firms are cited below. You can find the complete table at the Practice Matters section of architecturalrecord.com. ■

HOW TO USE THIS TABLE

Companies are ranked according to revenue for architectural services performed in 2006 in $ millions. Firms that responded to *Engineering News-Record*'s annual Top Design Firms survey submitted these revenue figures. The McGraw-Hill Companies publishes both ARCHITECTURAL RECORD and *ENR*.

Key to how firms classify themselves:
A = Architect
AE = Architect-Engineer
AEC = Architect-Engineer-Contractor
EA = Engineer-Architect
Other combinations possible

To participate in the *ENR* survey, which serves as the basis for this ranking next year, contact Virgilio Mendoza at 212/904-6371 or virgilio_mendoza@mcgraw-hill.com.

ARCHITECTURE FIRMS RANKED ACCORDING TO 2006 REVENUE

Firms listed by 2006 architecture revenue as reported to *ENR* in its Top 500 Design Firms Survey	Type of firm	Total architectural revenue	Domestic architectural revenue	International architectural revenue	Percent of design revenue from architecture	Total design revenue
Gensler, San Francisco, Calif.	A	500.20	444.40	55.80	100%	500.20
URS, San Francisco, Calif.	EAC	420.00	348.00	72.00	12%	3574.70
HOK, St. Louis, Mo.	AE	372.64	252.32	120.32	78%	475.77
HKS., Dallas, Tex.	AE	309.15	285.82	23.33	100%	309.15
Perkins+Will, Atlanta, Ga.	A	268.30	235.40	32.90	100%	268.30
Skidmore, Owings & Merrill, New York City	AE	195.00	100.00	95.00	78%	251.20
HDR, Omaha, Neb.	AE	173.10	163.90	9.20	21%	812.50
RTKL Associates, Baltimore, Md.	AE	146.06	101.30	44.76	72%	203.80
Callison, Seattle, Wash.	A	129.50	99.00	30.50	100%	129.50
Perkins Eastman, New York City	A	122.00	111.00	11.00	100%	122.00
SmithGroup, Detroit, Mich.	AE	113.90	112.90	1.00	79%	143.90
Kohn Pedersen Fox Associates, New York City	A	109.00	31.00	78.00	100%	109.00
Cannon Design, Grand Island, N.Y.	AE	105.20	84.14	21.06	81%	130.35
NBBJ, Seattle, Wash.	A	100.46	74.57	25.89	70%	143.60
Leo A Daly, Omaha, Neb.	AE	100.32	96.32	4.00	70%	143.65
Heery International., Atlanta, Ga.	AE	99.30	99.30	0.00	74%	134.20
Zimmer Gunsul Frasca Partnership, Portland, Ore.	A	92.06	89.00	3.06	100%	92.06
KTGY Group, Irvine, Calif.	A	78.03	77.87	0.16	100%	78.03
Gresham, Smith and Partners, Nashville, Tenn.	AE	75.00	74.25	0.75	65%	114.94
Wimberly Allison Tong & Goo (WATG), Honolulu, Hawaii	AP	74.28	31.70	42.58	82%	91.07
HMC Architects, Ontario, Calif.	A	73.81	73.81	0.00	100%	73.81
Arquitectonica, Miami, Fla.	A	72.62	37.66	34.96	100%	72.62
Smallwood, Reynolds, Stewart, Stewart & Associates, Atlanta, Ga.	A	72.48	44.67	27.81	100%	72.48
Carter & Burgess, Fort Worth, Tex.	EA	71.80	69.40	2.40	16%	436.10

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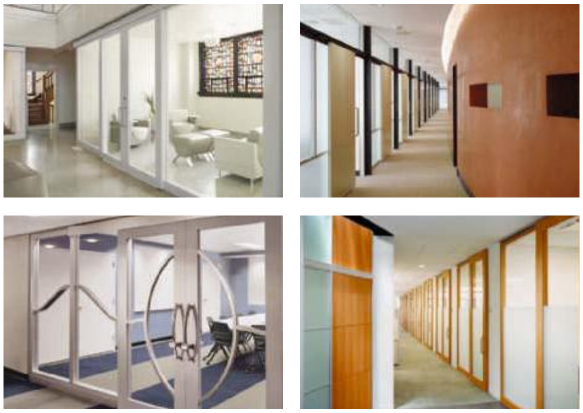

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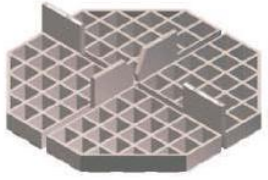

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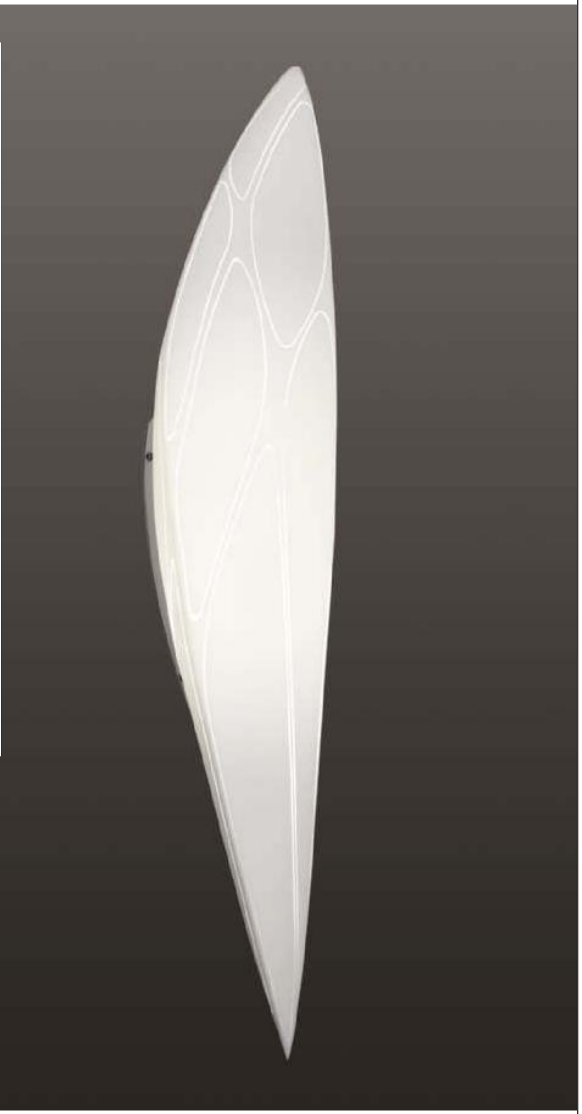

Clockwise from left: Glacier Ice is a solid white translucent material; the Opale fixture from Ivalo Lighting demonstrates the design potential of Glacier Ice; Artic Ice will offer the same translucency, but with a particulate design.

By Rita Catinella Orrell

Translucent solid surfacing material comes to light

Two new translucent colors from DuPont Corian, Glacier Ice and Artic Ice, allow up to three times as much light to pass through than other Corian colors. The new materials were previewed at the AIA show held last month in San Antonio. Also on display at the show was Opale, a new lighting fixture from Ivalo Lighting that uses Glacier Ice for the body of the fixture. Designed by Ali Rahim and Hina Jamelle of Contemporary Architecture Practice in New York City [RECORD, Design Vanguard, January 2004, page 136], Opale is illuminated by a single 39-watt HID lamp. "[Corian] employed a vacuum-form technique which allows the overall form to be continuous and read as completely seamless," says Jamelle. "They were also fantastic in developing new techniques for the tooling of grooved thicknesses in a complex shape." Glacier Ice, a solid, translucent color, will be available this Summer. Artic Ice, made with white particulates, will be available on a limited basis in the fall. DuPont Corian, Wilmington, Del. www.corian.com **CIRCLE 200**

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Trade Show Review Valencia • Cevisama

Tiles rule at Cevisama, which celebrated its 25th year in 2007. Bringing together more than 1,000 exhibitors, the Valencia trade show displayed dimension-defying ceramics—from high-tech decorative to metal and textile look-alikes. These days with tile, anything is possible. *Jane F. Kolleeny*

1 Metallica Apavisa's Inox Collection of tiles, featuring a porcelain with the appearance of steel (but without its material limitations) is mono calibrated and stable against changes in temperature. Available in silver, chrome, copper, and gold (shown), in 23.6" square and 11.8" x 23.6". San Juan de Moro, Spain. www.apavisa.com **CIRCLE 201**

2 Fanciful facades Emotile by Ceracasa leads the way in mural-like imagery. Displaying reproduced photographs using ink-jet technology, these large-format tiles enliven functional facades. Tiles come 19.3" square, 12.4" x 25", and 19.3" x 38.7" rectified (matte, antislip, or satin finishes), 11.8" x 24.5" rectified, and 15.5"-square rectified. Surfaces, Miami. www.ceracasa.com **CIRCLE 202**

3 The look of nature Using IPlus digital technology, Inalco applies superb craftsmanship to create tiles reproducing the quality of other materials, such as the stonelike Cuarcita, available in formats from 17.7" x 35.9" to 17.7" square, with borders and mesh-mounted wall tiles in three colors: Crema, Nuez, and Piedra. Intertile Corporation, Hialeah, Fla. www.inalco.es **CIRCLE 203**

4 Tiny geometries Tau's new natural and polished Carbono Series, designed in 23.6" square, is modeled after high-tech materials of the aeronautical industry. Carbon fibers, five times thinner than a human hair, mold together to create a high-strength polymer-textured metallic enamel product. Castellon, Spain. www.tauceramic.com **CIRCLE 204**

5 Tiles with grooves Tres Estilos presents its spin on relief and textured wall tile with its Ecology Dimensions Collection. Suitable for exteriors and commercial spaces, tiles come in a 12"-square size. Tres Estilos, San Juan de Moro, Spain. www.tresestilos.com **CIRCLE 205**

6 Fabulous fabrications Gaya presents the Lynx Series of floor tiles (shown) with the luxurious look of leather. And from the Fussion Collection comes a variety of wall tiles measuring 12.5" x 18", with decorative listellos in sizes from ½" x 12½" to 2" x 12½", available in four colors. Castellon, Spain. www.gaya.es **CIRCLE 206**

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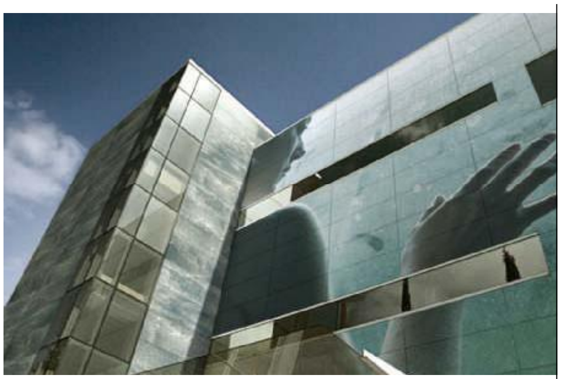

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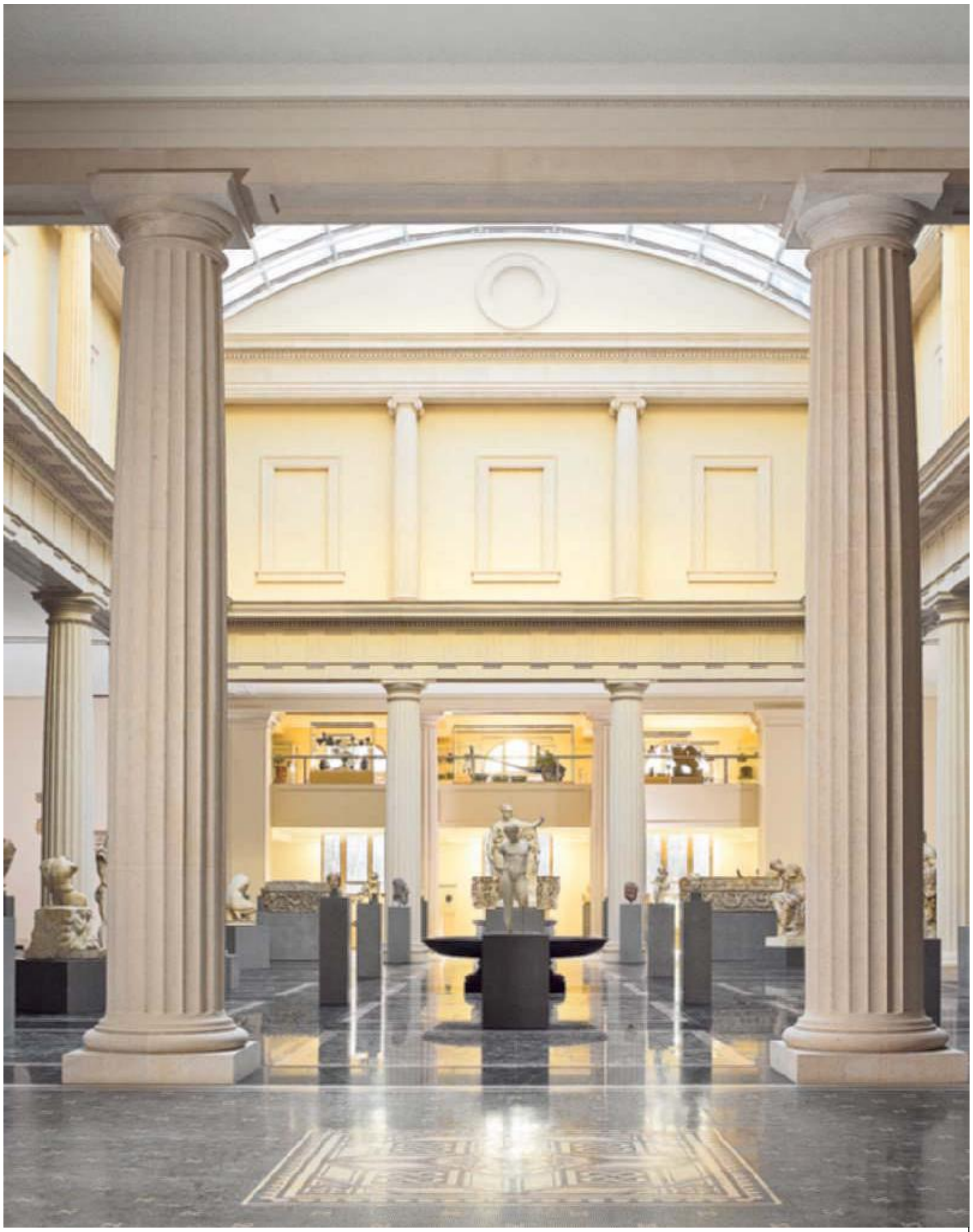
Snapshot



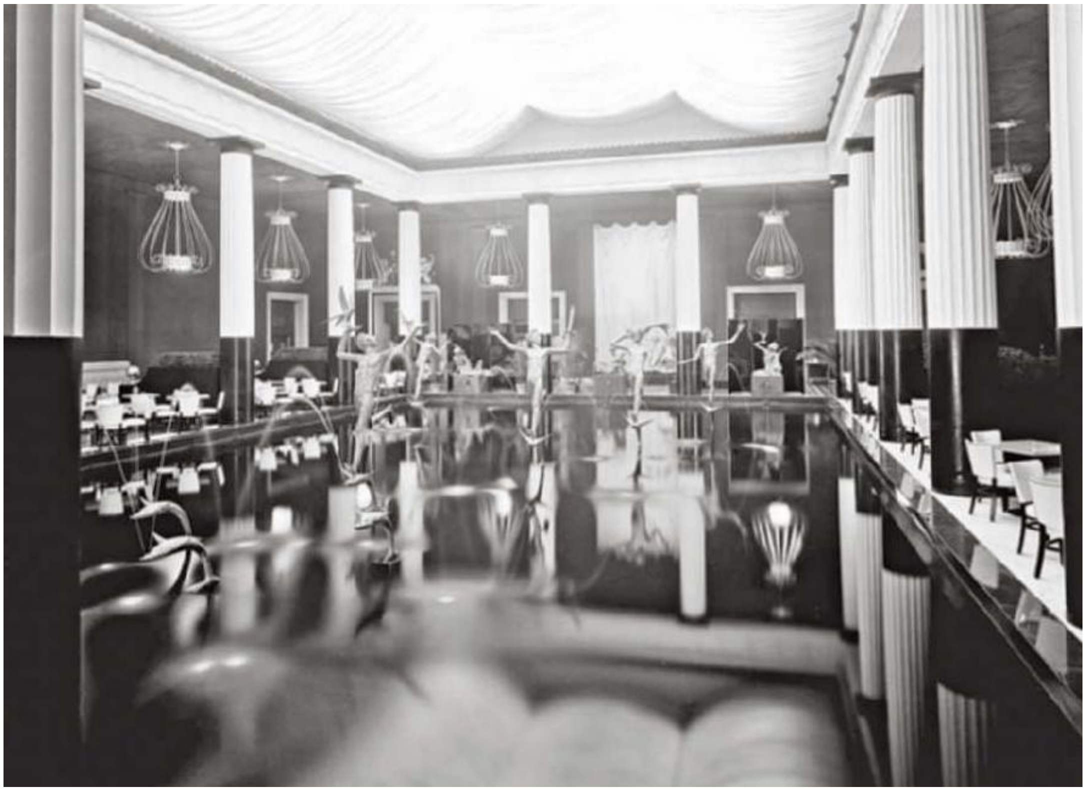
PHOTOGRAPHY: COURTESY THE METROPOLITAN MUSEUM OF ART, NEW YORK

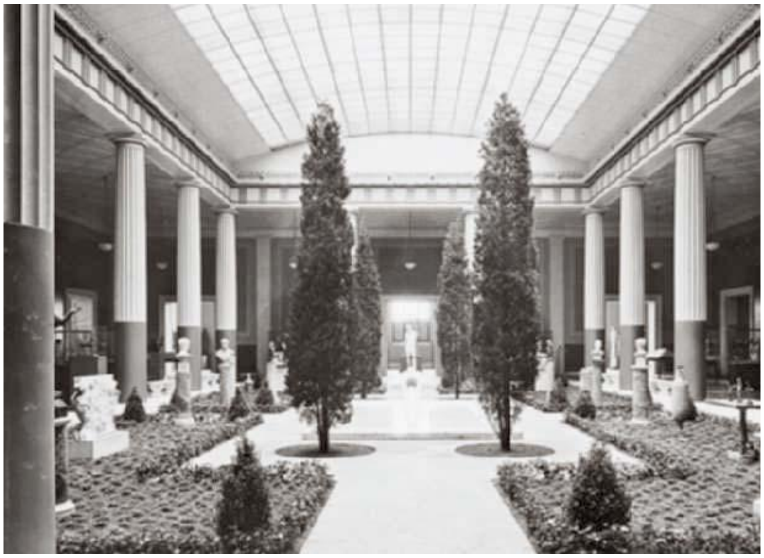
Seeing the light in the Met's newest galleries

By Beth Broome

Designed by McKim, Mead and White, the Metropolitan Museum of Art's original Greek and Roman galleries, which opened in New York in 1926, centered around a single-story peristyle court flanked by plaster-cast Doric columns. Based on a Pompeian court, the space, illuminated by a frosted-glass skylight, displayed statuary and other works among plantings and gravel paths.

In 1949, the Met's then director, Francis Henry Taylor, hoping to modernize the museum, decided to replace the galleries with a stylish new restaurant and relocate executive offices to a mezzanine with coveted views onto Fifth Avenue and Central Park. He brought in society decorator Dorothy Draper, who transformed the central court into a reflecting pool, with a fanciful bronze *Fountain of the Muses*, by Swedish sculptor Carl Milles. Enormous onion-shaped chandeliers illuminated the tables, and swathes of silk concealed the skylight, completing the café's image as a gracious, hat-and-white-glove lunch spot.





The atrium in 1926, posing as a scene from Classical antiquity (above), and as the Draper dining room in 1954 (top). In its current role, it is the new Leon Levy and Shelby White Court (opposite).

Over the years, the pool was drained and used for seating, and the formal restaurant, which in its time became something of an institution, devolved into a popular cafeteria (with a small section of the dining room retained). Even so, devotees mourned the restaurant's final closing in 2003, as a 15-year, $220 million reconstruction project to resurrect the Greek and Roman wing gained steam.

Now complete, the galleries offer a resplendent space for viewing the Met's immense collection, including an additional 5,300 works, which have literally been brought out into the light. To re-create the galleries, the museum installed a new heavy-duty steel framework into the basement area. They relocated offices around the upper perimeter of the courtyard, and moved the cafeteria to the lower level in a different wing. Kevin Roche, the Met's longtime architect, also notes that unlike its predecessor, the new central court's aesthetic, while still Roman Classical, draws on a precise period from the era, that of the emperor Augustus Caesar. The architects endeavored to achieve a more accurate interpretation of the period's style, says Jeffrey Daly, the museum's head designer, in contrast to McKim, Mead and White, who merely sought to evoke rather than strictly adhere to the architectural hallmarks of the age.

In this vein, the peristyle was extended to two stories with the idea of creating a grand terminus befitting an imperial palace and the magnificent procession through the galleries. A green and red marble floor of bold circles and squares (laid without grouting), a nod to the Pantheon, also takes its cue from palaces of the time, while the original mosaic around the court's perimeter was retained. Limestone columns replace the plaster ones, and a black marble fountain graces the court's center. But what moves the visitor is the copious daylight flooding through a clear-glass skylight and through the court's southern wall, which the architects opened up to expose the massive park-facing windows.

Over the course of a day, as the sun moves across the sky, it casts dramatic spotlights on the various statues on display, many of which were, after all, created to be seen *en plein air*. The effect is so potent that even the most dedicated Draper fans admit that once they saw the light they, too, became converts to the Met's new galleries. ■

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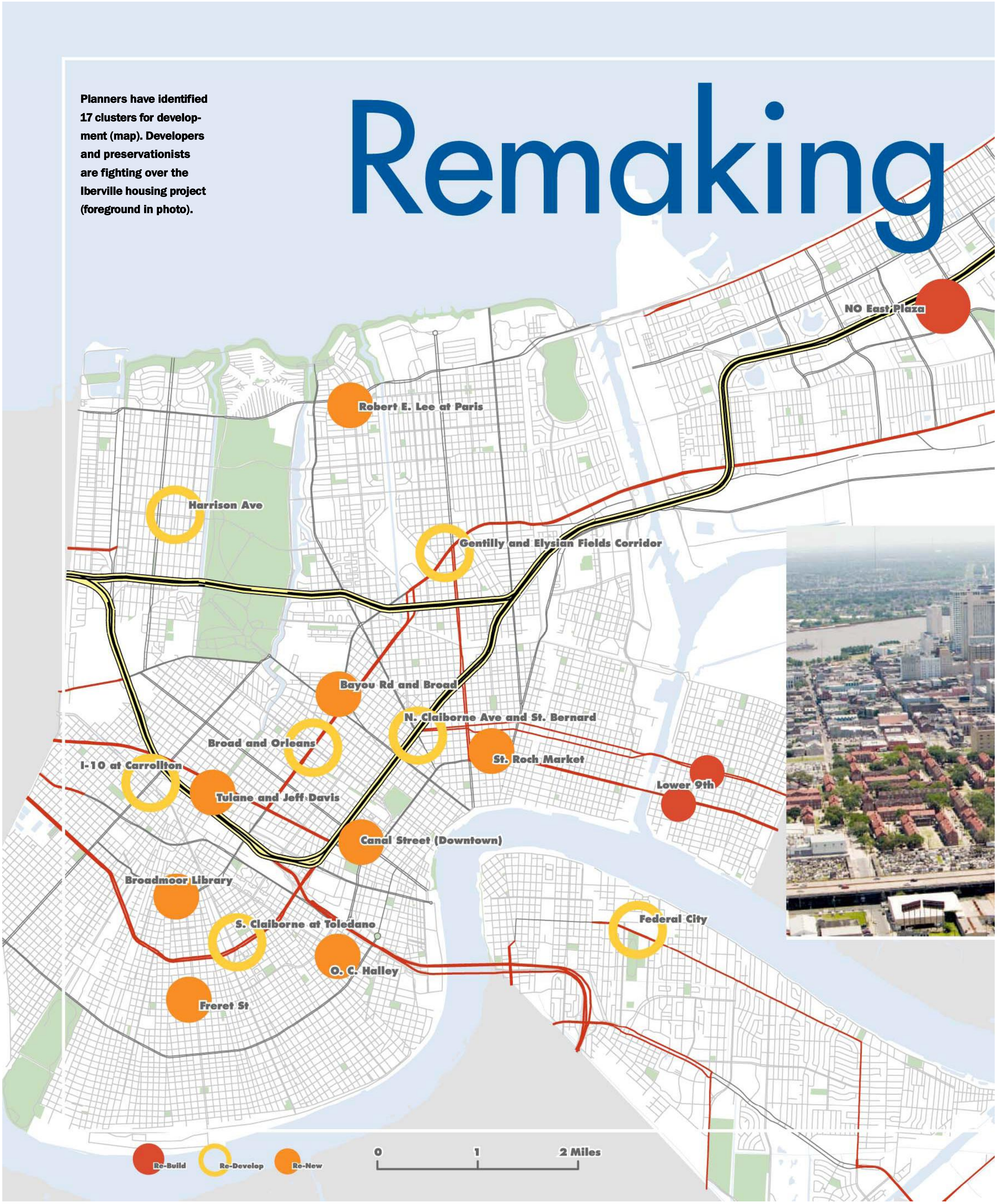
Remaking



Planners have identified 17 clusters for development (map). Developers and preservationists are fighting over the Iberville housing project (foreground in photo).

NO East Plaza
Robert E. Lee at Paris
Harrison Ave
Gentilly and Elysian Fields Corridor
Bayou Rd and Broad
N. Claiborne Ave and St. Bernard
Broad and Orleans
St. Roch Market
I-10 at Carrollton
Lower 9th
Tulane and Jeff Davis
Canal Street (Downtown)
Broadmoor Library
S. Claiborne at Toledano
Federal City
O. C. Halley
Freret St
Re-Build
Re-Develop
Re-New
0
1
2 Miles

New Orleans, without losing its past

By Shawn Kennedy

Even before Katrina's deathly waters receded, New Orleanians knew their cherished city would never be the same. If there was a silver lining amid the misery of lost lives and ruined communities, it was the chance to remake the Crescent City into a better version of its soulful and sultry itself.

But what should the new New Orleans look like? Should submerged neighborhoods be abandoned? Should all homes in flood zones wear stilts? Should the city draw itself up to high ground and get on with life as a much smaller place?

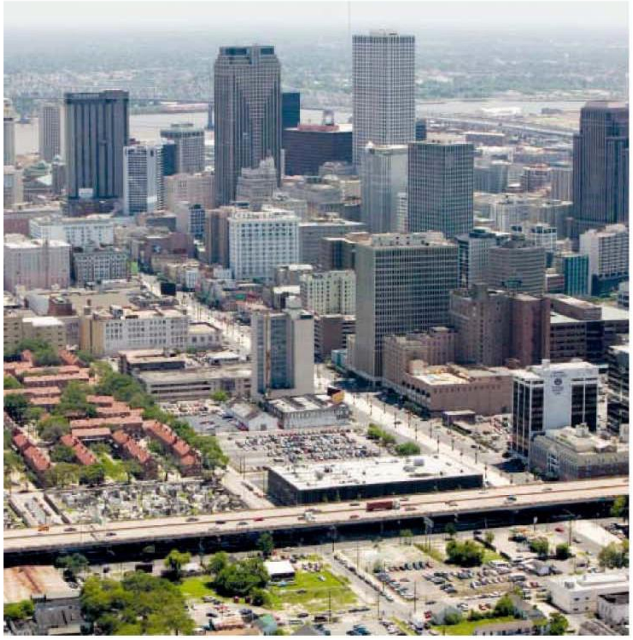
There was no lack of advisers, from planners to architects to developers to politicians and their redevelopment gurus. Finally, after more than 20 months of well-publicized stumbles and false starts, including competing sets of recovery schemes, New Orleans seems to be moving forward, albeit in the face of huge challenges.

The Unified New Orleans Plan (UNOP) is the road map and blueprint for rebuilding. The long-term plan carries a $14 billion price tag and was created by ordinary citizens working with planning professionals after-hours and on weekends in churches, schools, and community centers. It replaces previous uncompleted schemes that fell by the wayside for lack of funding or political support. UNOP includes big ideas to rebuild the entire city—infrastructure improvements, public schools, housing, and flood protection—as well as custom projects like biking paths and gardens that benefit particular neighborhoods. One ambitious proposal, for example, would tear down a stretch of elevated highway that 50 years ago sliced through an African-American enclave, mowing down a boulevard of glorious oaks.

When it was released in February, UNOP took more hits than a piñata. The heaviest stick was held by the Bureau for Better Government, a local watchdog group that pronounced UNOP little more than a wish list that ducked hard questions of how and where to rebuild.

Steven Villavaso, the urban planner whose firm, Villavaso & Partners, led the team of professionals that wove together more than a dozen community designs into UNOP, defends the plan, saying, "UNOP is not the end, it's the beginning. It's flexible. It was designed to accept the changes and improvements that will inevitably come. What validates UNOP is that it carries the weight of broad-based, grass-roots citizen participation."

UNOP still needs to pass muster with the city planning commission, the city council, and the mayor, but adoption appears



Planners, politicians, and citizens have been fighting over the Crescent City's future for two years. Will a new plan and disaster-recovery chief hone a workable vision that builds what's needed while it preserves what's beloved?

Shawn Kennedy is a former staff reporter for The New York Times *and now writes as a freelancer in New Orleans.*

likely by early summer. Most public officials support the plan, and the Louisiana Recovery Authority is waiting on the adoption of UNOP to start the flow of $300 million in federal recovery funds.

UNOP was given further credibility in March when the city's new disaster-recovery chief, Edward Blakely, unveiled a $1.1 billion phase-one investment scheme, the first step in what is projected to be a 10-to-15-year effort. This scheme, which took a lot from the UNOP plan, proposes using 40 percent of the public dollars as leverage to draw investors, developers, and residents to 17 targeted clusters throughout the city, and about 60 percent for citywide projects. While all of the money is not in hand, the plan includes potential sources and strategies for raising it.

Blakely, a Californian who was brought to the city with great fanfare by Mayor Ray Nagin, has emerged as the go-to guy for disaster recovery. He devised response plans for Oakland, California, after the city was hit first by the Loma Prieta earthquake in 1989 and then a devastating fire in 1991. Blakely's urban-planning expertise has been sought by foreign local and regional governments in countries ranging from New Zealand to Vietnam.

Steven Bingler, an architect and planner, whose firm, Concordia, coordinated the neighborhood planning process that resulted in the UNOP document, believes this pedestrian-oriented cluster concept is the best strategy for success. "It's a sustainable model where people can walk to most of the places they need to go," says Bingler. "It's the way communities used to be before we started driving everywhere. Think of it as using the French Quarter—a self-sustained community—as the DNA for rebuilding other neighborhoods."

Most of these target clusters are in areas that escaped the worst flooding. But two communities, the 9th Ward and East New Orleans, both nearly wiped away by the surge, made the cut. Their inclusion suggests that the city's new map will not have a smaller footprint—at least not by design.

THE TARGET CLUSTERS HAVE BROUGHT A FLICKER OF HOPE TO A CITY HUNGRY FOR LEADERSHIP, DIRECTION, AND MOMENTUM.

The targeted areas, each about a half-mile in diameter, are historic centers of commerce for their neighborhoods. They were selected, in part, because they already have anchors like commercial

Blakely applies management acumen to help New Orleans back on its feet

Clichéd as it sounds, Edward J. Blakely's vision for New Orleans took shape on the back of a napkin during an informal meeting with Mayor Ray Nagin in December 2006. "I sketched out how I would structure a recovery," Blakely recalls. "He said, 'That looks good. When can you start?' " Realizing that Nagin was serious, Blakely returned to the city just weeks later to become executive director of its Office of Recovery Management. "I had not intended to come, but I knew I had certain skills that would be helpful."

Saying that Blakely has "certain skills" is an understatement. An urban planner and academic, he boasts an extensive résumé that includes assisting Oakland, California, recover from an earthquake in 1989 and a massive wildfire in 1991, as well as designing master plans for cities throughout Asia. He currently serves as director of the Planning Research Centre at the University of Sydney, in Australia, where he also chairs the Urban and Regional Planning program.

Tapping Blakely was widely viewed as New Orleans's best hope for a successful recovery—most press accounts, in fact, lauded his "realistic" view of what should happen next. "I made the problems easy to understand, made the start points clear, and assigned dollars to those start points that made sense," Blakely explains. "That's the thing you would do in a business. I don't think people had thought of doing things that way, but clearly that's my expertise."

Blakely, 68, holds a doctorate in both management and education from the University of California at Los Angeles, as well as master's degrees in management and development. He would have pursued a degree in urban studies, Blakely says, but the discipline was only just getting started when he was in school during the 1950s and '60s.

In New Orleans, Blakely likens his work to rebuilding European cities destroyed during World War II. "That analogy is more appropriate because most natural disasters affect only a part of a city. Even fires are mostly contained. But here everything collapsed."

And yet several factors make New Orleans's recovery different from anything else. Blakely cites the city's endemic poverty and troubled history of race relations—and something he labels a "mendicants" mentality. "For the past 19 months, there has been an attitude that we need to pay enough deference to Washington to get the resources we need for recovery. My attitude is we need to move on and they should join us."

To this end, shortly after joining Nagin's staff in January, Blakely hastily finished the Unified New Orleans Plan, which had been initiated only months before, and released it. He hopes the city will show demonstrable progress toward its goals by September. It's a short timeframe, but Blakely notes that his initial contract lasts just one year.

"I don't think anybody here wants me to be aspiring to do something in the future of New Orleans," Blakely observes. "They want me to get the place in good shape and then sail off."

James Murdock

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Plans call for renovating Canal Street's old theaters (above) as the core of a new entertainment district. Modern buildings such as the old Texaco tower (right) are also being restored.

and retail strips or shopping centers that planners hope will appeal to entrepreneurs, developers, and investors.

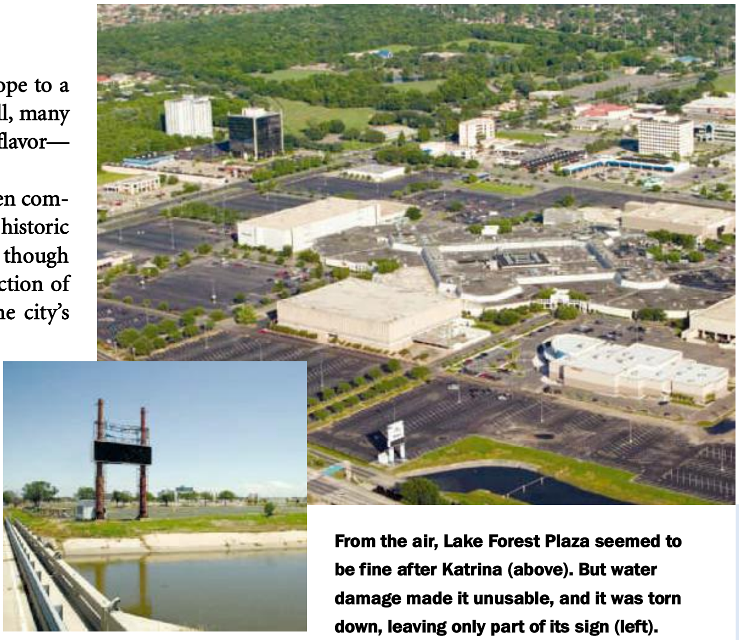
In one target area, in New Orleans East around New Orleans East Plaza, the assistance will focus on rebuilding the heavily damaged commercial corridor there. In another, along Harrison Avenue in the Lakeview neighborhood, not as damaged as New Orleans East, the assistance will support rebuilding that has already started. St. Roch, a historic neighborhood near the Mississippi River where flooding was minimal, represents a third category of target zones. St. Roch's commercial strip, where many mom-and-pop businesses have reopened, will get help to refresh and broaden the commercial and retail base there.

Robert Tannen, a New Orleans urban planner, sees the risk and the rationale in such a strategy. "The private market is going to deal with the low-risk neighborhoods, so I think they chose to put emphasis on the neighborhoods where private investment isn't so certain. But until the Corps [Army Corps of Engineers] and the state can demonstrate that there is protection to all neighborhoods with gates, levees, and coastal restoration, those areas are still at risk." While the Army Corps of Engineers had repaired and strengthened the levees to pre-Katrina condition by last June, the task of providing additional security is ongoing, with the ultimate goal of providing 100-year protection for the system by 2010. "The Corps is preparing for the 2007 hurricane season by focusing on improvements that will significantly reduce risks for critical areas," says John Meadon, deputy director of Task Force Hope. "This includes increasing levels of protection at the three outfall canals. The temporary floodgates will prevent storm surge from entering the canals, providing more effective storm and flood managements. The Corps is continually increasing pumping capacity at the outfall canals."

These target clusters have brought a flicker of hope to a city hungry for leadership, direction, and momentum. Still, many fear that in the rush to rebuild, much of the city's authentic flavor—in fact, its very soul—could be lost.

There is a lot at stake. New Orleans is ancient when compared to other American cities. A remarkable amount of its historic fabric has survived since the city's birth in the early 1700s, though much of it is in a state of decrepitude. More than a collection of homes and institutions built by the high and mighty, the city's architectural heritage includes entire neighborhoods where generations of middle- and working-class families—black, white, and mixed-race—lived and worked. It seems that nearly every block in the central city, no matter how highly decorated or humble, has a story to tell.

But even before Katrina, the city was adrift. According to the Census Bureau, nearly 30 percent of residents lived in poverty, and the city had a higher unemployment rate and lower rate of home-ownership than the national average. Starting in the 1960s with the desegregation of public schools and ending with the bust



From the air, Lake Forest Plaza seemed to be fine after Katrina (above). But water damage made it unusable, and it was torn down, leaving only part of its sign (left).

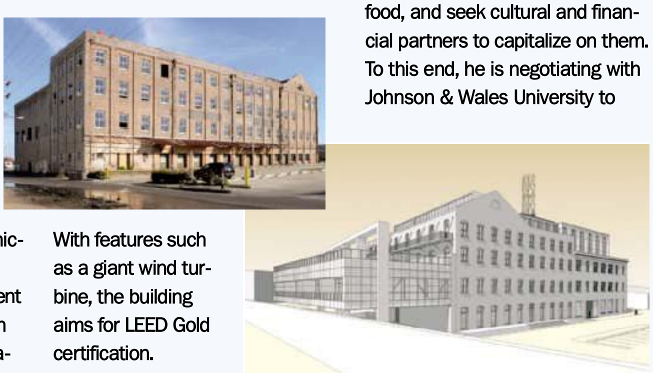
Cummings wants architecture to fuel economic rebound

New Orleans native Sean Cummings wants his city to shake off what he labels a case of provincialism. "We were historically a magnet for people from different parts of the world, whether it was the Spanish and the French or the master craftsmen of West Africa," he explains. "But in the past 80 years, we've become more insular—to our detriment."

Cummings is in a position to help broaden the city's perspective. The 42-year-old is executive director of the New Orleans Building Corporation (NOBC), which is charged with developing municipally owned real estate, and president of a private development company called Ekistics. In both capacities, he's pursuing innovative, contemporary design.

"It's an incredibly bad idea to attempt some sort of faux architecture that mimics history," Cummings says. "*Time* and *place* are the two key words. We should embrace work that's of this time and makes use of today's materials and technologies, but still very skillfully reflects this place."

The Rice Mill Lofts project (below two) is a good example of Cummings's philosophy. Working with Wayne Troyer Architect, Ekistics is converting an abandoned mill into condominiums.



With features such as a giant wind turbine, the building aims for LEED Gold certification.

Despite his preference for forward-looking work, Cummings says that he's unconcerned about so-called "Disneyfication" as New Orleans rebuilds. His worry is far more serious: the shaky economy. "Without job creation and a magnet for people to move here, the city will become even more insular than it was before."

Cummings, who holds a bachelor's degree in urban studies from Brown University, believes that New Orleans should focus on its strengths, such as music and food, and seek cultural and financial partners to capitalize on them. To this end, he is negotiating with Johnson & Wales University to open a culinary school. It would be part of the New Orleans World Trade Center, a massive building whose makeover into a hotel and cultural venue is being designed by Frederic Schwartz Architects and The Rockwell Group.

Architecture is a key ingredient for New Orleans's economic success, Cummings adds. The master plan RFQ for NOBC's redevelopment of a 4.5-mile stretch along the Mississippi River downtown attracted the likes of Zaha Hadid and Daniel Libeskind. The winning team, a collaboration led by Enrique Norton, Chan Krieger Sieniewicz, Hargreaves Associates, and Eskew+Dumez+Ripple, will unveil a scheme of parks and museums on June 30. "We want to bring in the single greatest concentration of design talent here," Cummings says. "Let's get some fresh thinking in New Orleans." *J.M.*

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Gay sees preservation as the key to a healthy future for New Orleans

During the summer of 2004, one year before Hurricane Katrina, Patricia Gay testified at public hearings in support of St. Thomas residents. This New Orleans neighborhood, full of architecturally significant 1930s-vintage houses, was concerned that a proposed Wal-Mart store would alter its character.

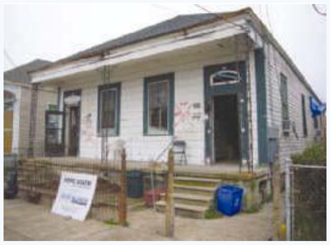
"It seems like a lifetime away," says Gay, executive director of the Preservation Resource Center of New Orleans (PRC). And yet some things never change. At the same time that it was battling big-box retailers, PRC was fighting teardowns. The group still wages this fight, only now entire neighborhoods are at risk of being bulldozed. "Whether it's boom or bust, there's always pressure to demolish historic buildings," Gay observes.

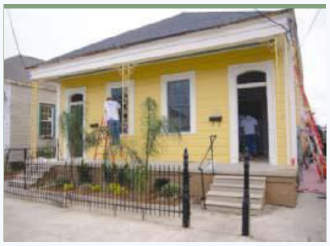
Although the magnitude of New Orleans's preservation challenges seems daunting, PRC boasts a handful of recent success stories. Gay credits them both to grassroots neighborhood activists and assistance from the National Trust for Historic Preservation. But she admits that PRC laid groundwork long before Katrina. In the Holy Cross neighborhood, for instance, it was working with community organizers to purchase and restore two blighted historic houses. Unlike other parts of the Ninth Ward, Holy Cross sits on higher ground and fared well during flooding—so PRC was able to complete work on the houses and sell them. It has since bought two more and is repeating the process.

Gay, 64, helped found PRC in 1974 and has headed it since 1980. Whether it is renovating properties or distributing buckets and cleaning supplies, the group acts as a true community resource for preservation. It also raises awareness with events such as "Look and Believe" tours of rebuilt houses (below right)—providing evidence of success, she says, for former New Orleans residents who are reluctant to return.

A native of Baton Rouge, Louisiana, Gay became interested in preservation after seeing what 1960s urban renewal did to her city—and reading Jane Jacobs. "If you care about cities, which is really my passion, saving your historic built environment is how you do it," she says.

This message is particularly key right now, Gay adds, as homeowners face tough decisions about whether or not to rebuild. "Many of the older houses survived the storm very well, so we should treasure them. It's like survival of the fittest. When you want to rebuild a population you don't start by tearing down what you already have." *J.M.*

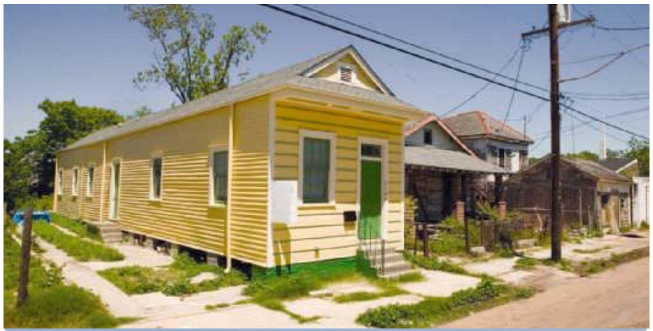


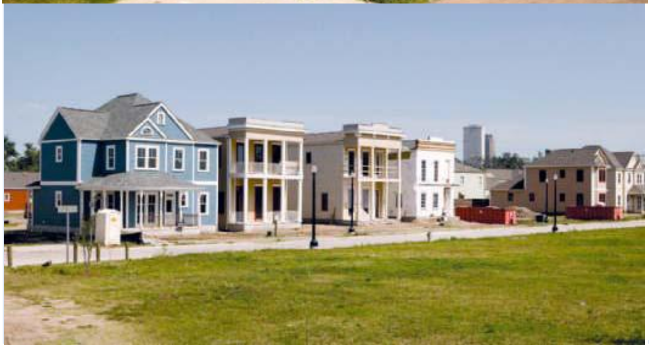


of the gas and oil industries in the early 1990s, New Orleans witnessed a population retreat from which it never recovered. Between 1960 and 2000, the city lost nearly a third of its residents. Historic neighborhoods in the central city were hurt the most by this exodus.

But for the preservation movement, the city's economic decline would have taken a greater toll. Starting in the 1970s, nonprofit organizations like the Preservation Resource Center successfully campaigned to have the city's humbler streetscapes recognized as architectural and historic treasures worthy of protection. Today there are 16 protected historic districts, covering more than half of the city.

Walter Gallas, director of the field office for the National Trust for Historic Preservation, says a huge challenge in keeping the city from losing more of its history to post-Katrina neglect is the desire of many residents and public officials to see storm-damaged buildings bulldozed or transferred to those who would repair them. "The laws are in place," says Gallas, "it's a matter of enforcement on the local and federal level. Properties tagged for demolition are supposed to be reviewed, and that doesn't always happen."





In the Holy Cross neighborhood, the Preservation Resource Center restored a classic shotgun house (above left). In the Lower Garden District, new market-rate housing is being built (left).

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The city's landmark protection laws say structures or edifices within historic districts can't be demolished, altered, moved, or restored without a certificate of appropriateness. Moreover, a federal statute says that if a federal agency is involved in the undertaking—as is often the case in post-Katrina New Orleans—a public review is required before structures listed on the National Register of Historic Places or in historic districts can be demolished. The law applies even in cases where the city believes the buildings may be in imminent threat of collapse or are potential hazards to the community.

If salvation for the city's historic streetscapes hinges on the success of the rebuilding plan, no single entity is more pivotal to the rebirth than the New Orleans Redevelopment Authority (NORA). Long in charge of recycling abandoned or tax-delinquent buildings throughout the city before the storm, NORA lacked the teeth—legal and financial—to make much of a difference on the blighted landscape. But last spring the state passed legislation to expand NORA's powers that increased its board from seven to 11 members, gave the agency bonding authority, and allowed it to use new market tax credits.

With fresh leadership and more legal and administrative clout, NORA will serve as the city's land bank. Its portfolio has or will include tens of thousands of blighted and or tax-delinquent properties. In addition, as homeowners opt to sell storm-damaged homes to the state recovery authority—one form of reparation in the Road Home program (the $7.5 billion federally funded initiative that provides up to $150,000 in grants for Louisiana homeowners to rebuild or sell their homes to the state)—the agency will take those houses, too. "Our job is to return these buildings to commerce," says Joseph Williams, a former investment banker who took over NORA in January. "But we are well aware that the mandate comes with a respect for the historic value of many structures."

Right now, Williams has more on

(continued on page 226)

In the Lower Ninth Ward, many houses have been torn down or left abandoned, while one new house is going up (top). One of the target clusters includes Freret Street (above), in part because a hospital is nearby.

Bingler wants citizens to power the planning and rebuilding effort

When Steven Bingler, AIA, envisions the future of New Orleans, he sees a city composed of strong neighborhoods that feature places to educate children, provide local health care, and accommodate recreational and cultural activities. For Bingler, these functions are indivisible—and public school buildings can contain them all. A healthy community, he explains, is like a human body in that it needs all its organs to function properly. It's only logical to house everything under one roof.

If this vision sounds slightly hippie-dippy, communities from Providence, Rhode Island, to Liberian villages in Africa have bought into it. So has New Orleans. Bingler's planning firm, Concordia, began working with Mayor Ray Nagin in 2004 to reenvision the city's troubled school system. Nagin was interested in strengthening neighborhoods and in the financial savings from combining municipal construction projects.

Hurricane Katrina and the school district's ongoing money problems interrupted the effort—but Concordia was a logical interim choice to coordinate citizens' input for the Unified New Orleans Plan (UNOP). Finished by Edward Blakely, it calls for the formation of 17 redevelopment districts throughout the city. At the heart of each is a school. "In New Orleans right now, we've got to rebuild the whole city, but that means you don't have to undo a lot of stuff," Bingler says. "If we think about it systemically, and think about it as a collection of neighborhoods, not only does that meet the challenge of how the city grows back, it also supports this massive community engagement and empowerment process that has emerged post-Katrina."

Encouraging community empowerment, observes the 59-year-old, has been his lifelong project. A few years after receiving his B.Arch. degree from the University of Virginia in 1972, he spent a summer at Paolo Soleri's Arcosanti experiment. "I wanted to study with Soleri, not because of Soleri, but because of what Arcosanti was evolving into, which was a community," Bingler says. "It really did work as a collection of people with a common purpose." Bingler now sees renewed evidence of citizen-led planning in groups such as America*Speaks*. "My hope is that people keep building and testing this community-based planning model." *J.M.*

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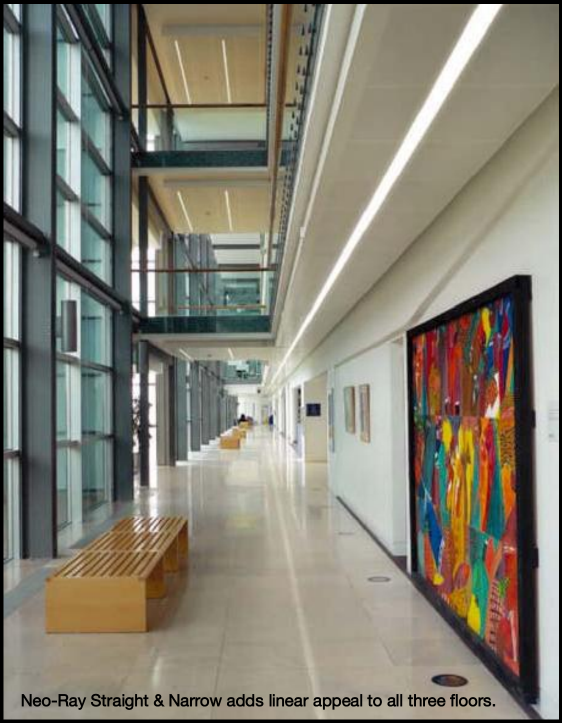

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PHILIP JOHNSON'S GLASS HOUSE: AN

A classic example of Modern architecture is spiffed up for its public debut

PHOTOGRAPHY: © EIRIK JOHNSON, EXCEPT AS NOTED; ARNOLD NEUMAN/GETTY IMAGES (TOP LEFT); STAN RIES (BOTTOM LEFT)

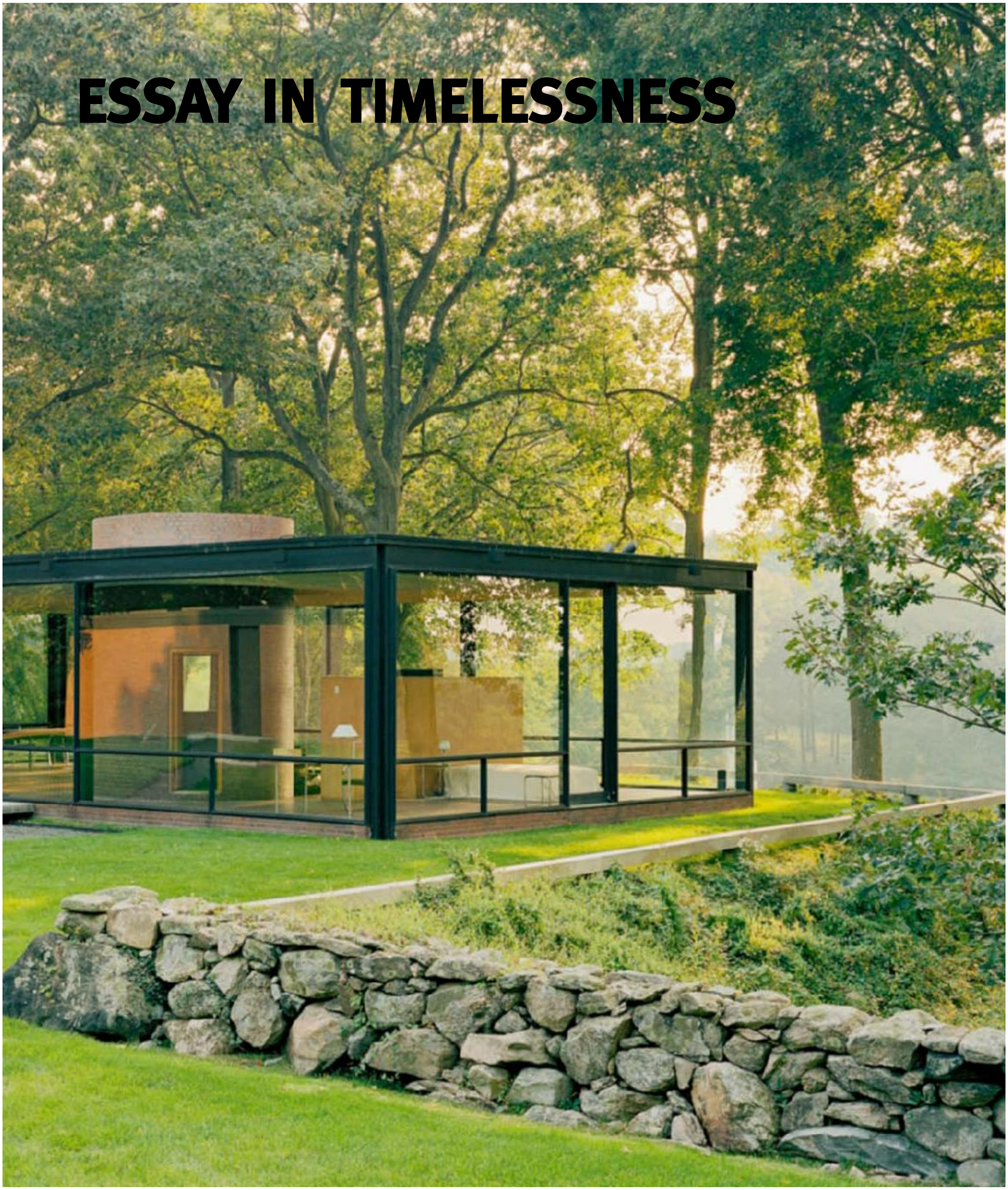
By Suzanne Stephens

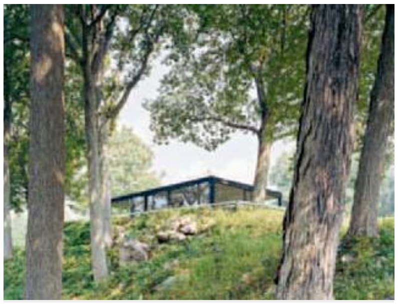
We expect buildings to physically age better and last longer than people. And well they should. But the Glass House, which Philip Johnson designed for himself in 1949 in New Canaan, Connecticut, never looked dated or old. As it readies for its public opening this month, it still appears as up-to-the-moment as the day Johnson posed at the house (top), on July 1, 1949, on the verge of his 43rd birthday. Even in 1974, when the Architectural League of New York helped Johnson (far left in photo, above) celebrate the 25th anniversary of the house with a picnic, the pristine steel-and-glass pavilion hardly looked like a period piece. Only the guests' attire and hairstyles give the year away.

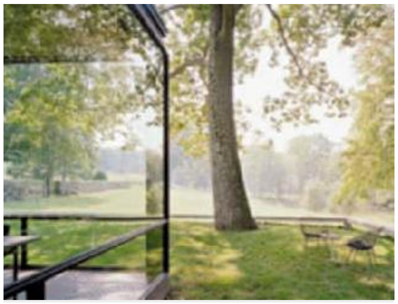
Johnson, who died in 2005 at 98, had willed the house and its 47-acre estate to the National Trust for Historic Preservation in 1986. Over the years, while he lived there with his long-time partner, the art curator and collector David Whitney, also deceased, Johnson continued to add one small building or folly after another. On June 21, a ribbon-cutting ceremony will officially open the house and its numerous ancillary structures to the public.

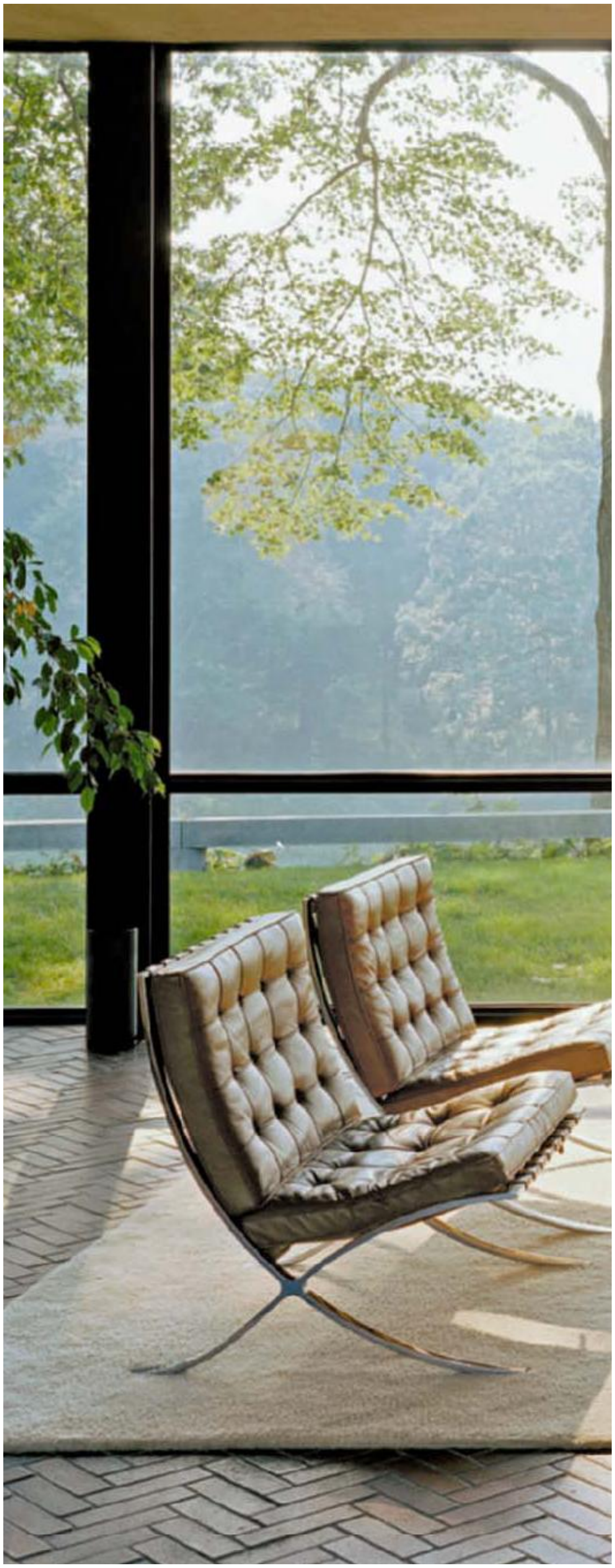
The trust will provide guided tours of the property and is formu-

ESSAY IN TIMELESSNESS









“I have very expensive wallpaper.”

—Philip Johnson

lating plans for three- to five-day seminars relating to architecture, landscape, and art. It is also establishing Glass House Residential Fellowships in 2008 for young people from disciplines including architecture, art, preservation, and landscape to pursue their studies. Money for Glass House programs and preservation comes from Johnson’s and Whitney’s estates, supplemented by private fund-raising.

In getting ready for its public debut, the trust acknowledged that even a supremely ageless design needs a bit of work—or more than a little. It just finished 26 preservation projects on the grounds, which included fully replacing the Glass House roof. William Dupont, chief architect for the National Trust, decided that a coal-tar-pitch built-up roof with stone aggregate surfacing was the best bet to replace a dead flat one with a single drain.

And so today, the stringently linear 1,720 square foot pavilion, serenely poised on a knoll, still looks pristine. Its black steel structure both captures and frames the verdant setting through glass curtain walls, unsullied by curtains or shades. The original Barcelona chairs, daybed, hassock, and coffee table designed by Mies van der Rohe (right) also attest to the ability of classic Modern design to captivate long after the people who conceived it have left the building. ■

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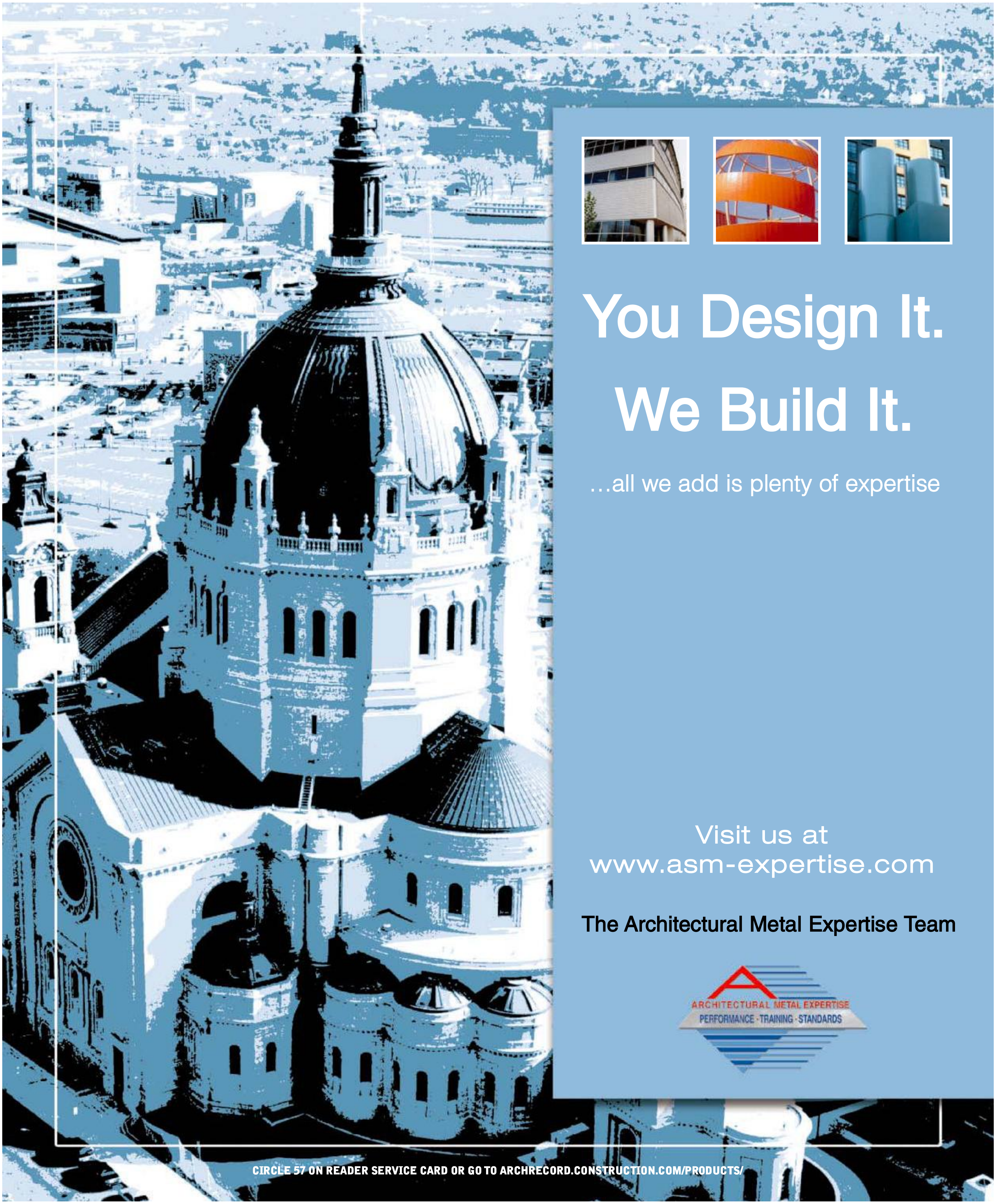

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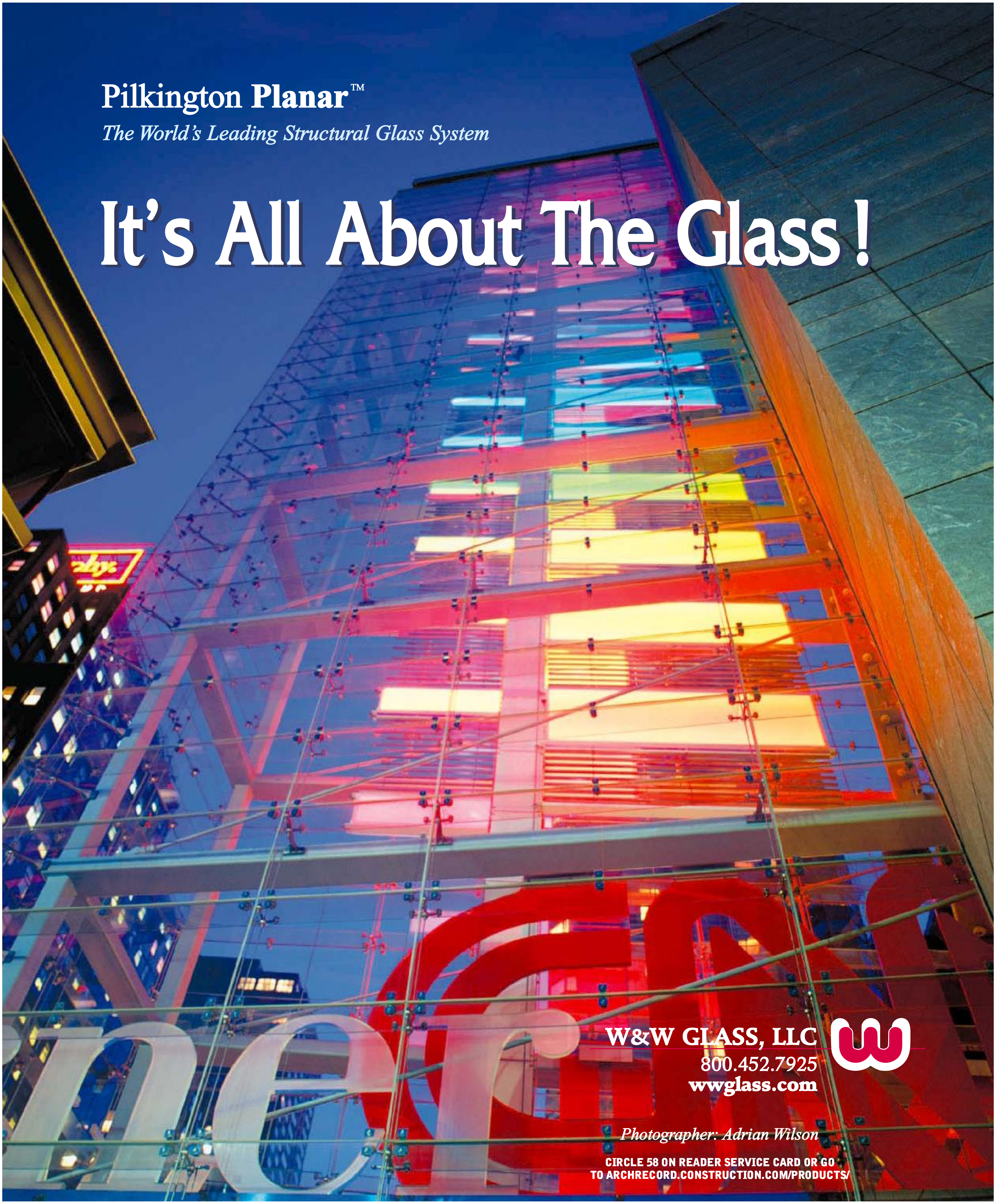

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Louis Kahn's 1962 Assembly Hall for Dhaka, Bangladesh, internalizes tradition.

On History and Culture

By Juhani Pallasmaa, with Peter MacKeith

Architectural history is often seen as a cavalcade of styles amid varying concepts of architectural beauty. This view regards the history of our discipline as a completed past that has no vital presence in the practices of the present. As a consequence, contemporary architecture is often presented and treated as an autonomous, self-referential, aesthetic and intellectual realm, and the quality of its products are judged by the degree of their contemporaneity, novelty, and apparent uniqueness. Yet any meaningful creative work must be rooted and judged in a continuum of culture and in the specific discipline or craft. In a fundamental sense, then, the relevance of artistic work is judged by the past as much as by the future.

Architecture essentially is an existential art. That is to say, architecture articulates our experiences and provides essential frames and horizons for the perception, understanding, and evaluation of our own life situations. Architectural meanings cannot be invented; they are fundamental articulations of the human condition, ones that can only be re-identified and continually expressed anew in effectively surprising ways. Consequently, the true perspective of architecture is always beyond architecture as an artifact or an aesthetized object—the perspective is one fundamentally reliant on a deeper history and culture.

In today's world of global architectural practices, instant digital media, and incessant migration, however, the sheer possibility of "authenticity" and "cultural specificity" in architecture can be questioned. I do not, however, think about these notions in predetermined or conservative ways. Culture is the very historicity of life—a lived reality, not an abstraction or a given narrative—and it cannot be fabricated or invented. The experience of authenticity is not a notion of cultural or architectural anthropology; it arises from a full presence of lived and true life.

The deep problem with today's globalized culture is its very experiential and emotional shallowness—its lack of the aura of the real. Current political and economic forces support the globalization of lifestyles, customs, and values, but the ethical duty of architecture remains: to resist this erosion of cultural, perceptual, historical, and human quality.

Architecture continues to possess the capacity to root us in our domicile, to enrich and dignify our daily life, to still further express values of life that give us genuine satisfaction and joy. Yet, as contemporary architects distribute their signature images around the world, the very task and understanding of architecture is distorted. Instead of being a means of structuring and articulating the lived human world, the art of architecture presents itself as an instrument of mental manipulation and vulgar business, tragically both ahistorical and distant (in this, as well, architectural journalism also needs to reassess its ethical role).

In addition to responding to given functional, economic, and cultural realities and demands, architecture has another responsibility: to defend the historicity, authenticity, and continuity of culture. This implies that a critical practice of architecture must be based on the internal and autonomous ideals and objectives of the discipline itself. Responsible design is always based on

Juhani Pallasmaa is a Finnish architect, critic, and former dean of architecture at the Helsinki University of Technology. His many books include The Aalto House *(2003) and* Sensuous Minimalism *(2002).*

Peter MacKeith is the associate dean of the Sam Fox School of Design & Visual Arts at Washington University in St. Louis.

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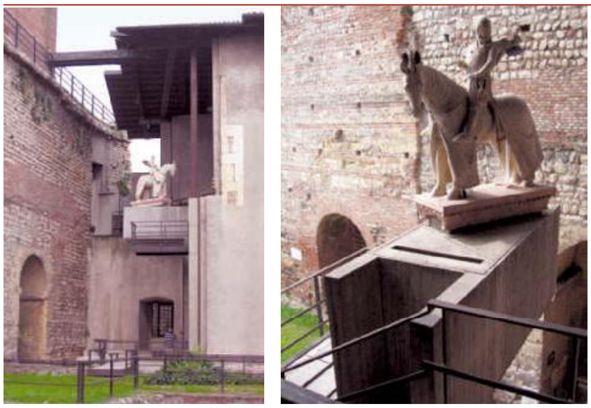
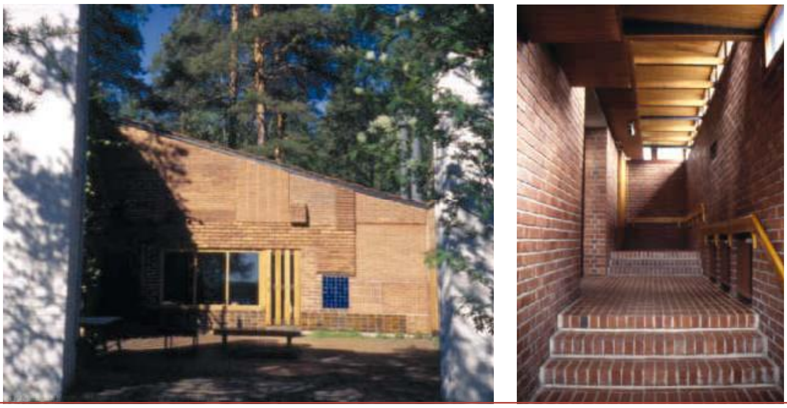


By introducing careful details, Carlo Scarpa's 1958 design of the Castelvecchio Museum in Verona, Italy (above and left), reinterprets the original structure.



Alvar Aalto's 1952 Municipal Center in Säynätsalo, Finland (below right), and 1953 Muuratsalo, Finland, house (below) both respect regional traditions.

the dialectics of a reality sense and idealized images of culture. As Alvar Aalto said in a 1957 lecture: "Architecture … has an ulterior motive …, the idea of creating paradise … Every building … is intended to show that we wish to build a paradise on earth for man." On the stage of today's egotistical and narcissistic architectural theater, this higher objective of architecture is sadly lost.

Creative works are always supra-individual accumulations of experience and wisdom. Milan Kundera, the Czech-French writer, points out "the wisdom of the novel," to which all good writers listen. In my view, architects should similarly listen to "the wisdom of architecture," the accumulated understanding of the essence of architectural culture, encoded in the ancient and contemporary traditions of building. Architecture is truly a collective art form, although not only in the sense that it creates lived metaphors that concretize the cultural and mental structures of the society. Architecture is an art essentially based on collaboration—the obvious cooperation with numerous experts, builders, and craftsmen, to be sure—but moreover, collaboration with history and the wisdom that it possesses.

Although I am emphasizing the significance of the historical grounding of creative work, I am not promoting architectural conservatism or implying that architects need to become historians. As T.S. Eliot already advised us in his seminal 1919 essay, "Tradition and the Individual Talent," writers and other creative individuals need a "historical sense." This sense grasps the continuity of traditions, as well as the ruptures in the processes of traditions.

Most important, the history of our discipline and practice teaches us the art of respect and humility. The poet Joseph Brodsky writes, "Poetry is a tremendous school of insecurity and uncertainty," and continues, "Poetry—writing it as well as reading it—will teach you humility and rather quickly at that. Especially if you are both writing and reading." Brodsky's statement applies equally to architecture—particularly if you are both making it and theorizing about it! To work within our shared architectural heritage is to enter into a special realm of architectural responsibility and humility. The primary significance of this historical sensibility is that it assigns you your position in the continued dialogue of culture.

Eliot also warns us against a false respect of tradition, for tradition "cannot be inherited, and if you want it you must obtain it by great labour." I view very critically the posthumous execution of projects by architects who can no longer supervise and fine-tune the materialization of their ideas. Great architects have a magic touch, and a secret power to inspire the bricklayer and stone mason. Sigurd Lewerentz, one of the most provocative masters of the modern era, reportedly sat in a chair at the construction site of his 1956 St. Mark's Church near Stockholm pointing with his umbrella at each individual brick in the stack, and then at its final position in the wall under construction. One cannot simulate this personal, meticulous process. On the other hand, the 1983 rebuilding of Ludwig Mies van der Rohe's 1929 Barcelona Pavilion posed fewer problems. That reconstruction was fundamentally a re-execution of something that had already passed its channel of birth, and was exceptionally well recorded in its most minute detail and intention.

The same requirement of a creative and poetising presence applies to restoration. Since old buildings and settings usually have a multiplicity of layers and intentions, the principles and choices of restoration require specialized historical and

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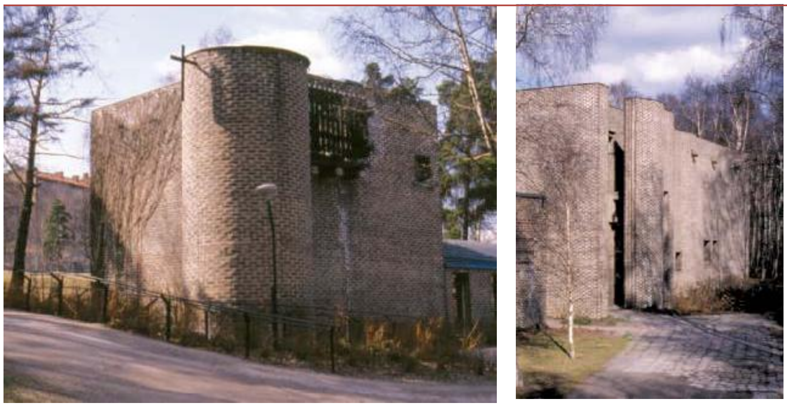
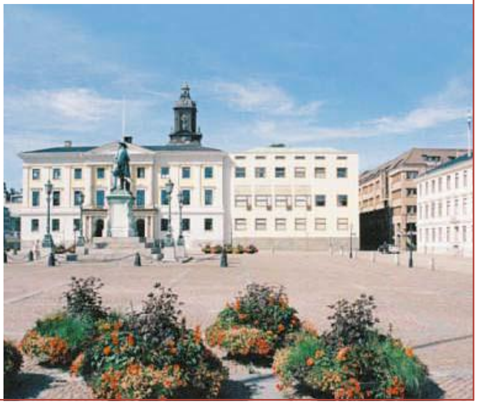


Sigurd Lewerentz dictated the placement of each individual brick during construction of his 1956 St. Mark's Church (above and left), outside of Stockholm.

Erik Gunnar Asplund's 1936 addition to the city hall of Gothenburg, Sweden, responds to the scale and rhythm of the original building (below).



PHOTOGRAPHY: © PETER MACKEITH (LEFT AND MIDDLE); KALLE SÖDERMAN (RIGHT)

scientific knowledge and judgment. But the materialization of a restoration project is ultimately an artistic task as much as the creation of a novel structure—think of Carlo Scarpa's 1958 Castelvecchio Museum, for instance. Even a damaged painting can be given a new life—or restored to death—depending on the subtlety of the eye and hand of the restorer.

The restoration of any modern building poses ethical, philosophical, and technical problems, beginning with the idea of the preconceived interdependence of form and function. What is the architectural validity of a functionalist building that has been given a new function? What is the value of a linguistic proposition devoid of its initial meaning? The technical problems arise from the frequent experimental nature of modernist structures, materials, and details. Traditional building methods and materials were tested by time and successive application, whereas modern architecture, as a consequence of its obsession for novelty, speed, and interest rate, has unfortunately continued to construct a successive series of untested prototypes.

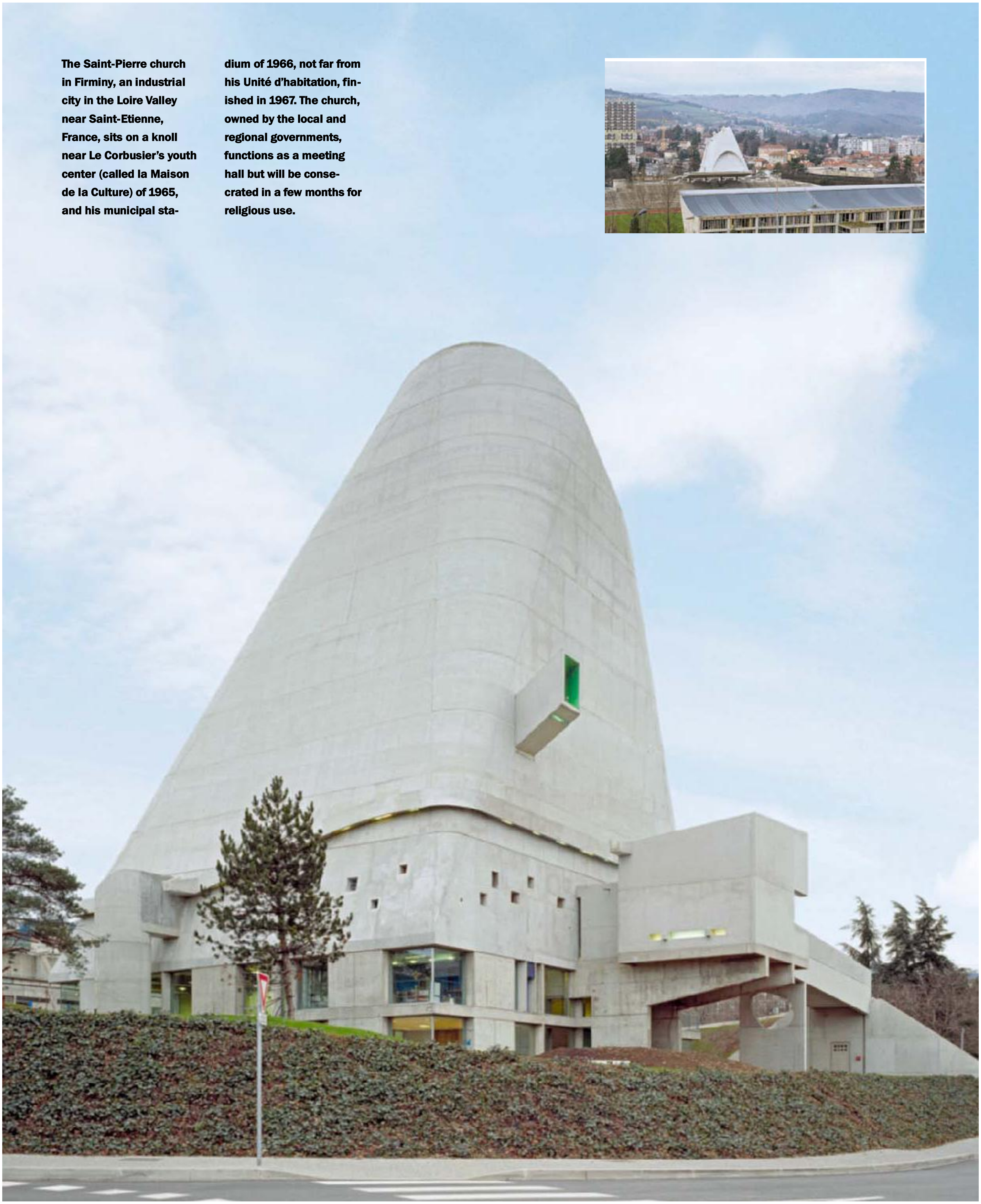
GREAT CREATIVE INDIVIDUALS OFTEN HAVE AN AMAZING CAPACITY TO INTERNALIZE … CULTURAL TRADITIONS.

Extensions and additions to existing buildings pose equally unique challenges that can only be judged as unique cases. An extension in a different style can create an unexpected counterpoint and dialogue, as in Erik Gunnar Asplund's town hall extension in Gothenburg (1936), whereas in other cases, the added parts should blend with the original to create a neutral background. The objective of neutrality is surely the most demanding in architecture, because such neutrality is usually aimed at creating a supporting background that gives added presence to the foreground figures. Again, the result can only be judged by its artistic qualities, instead of being justified by theoretical preconceptions. Expanding or altering a piece of architecture is primarily an artistic task that naturally needs to be based on responsible understanding and appreciative historical judgment.

Lastly, with regard to designing outside of one's immediate cultural context, the essence of culture cannot be learned, only lived. Designing for such cultural contexts is almost necessarily doomed to turn into a shallow depiction of the overt characteristics of the culture in question, or in the standard case, to remain an alien import, and more and more nowadays, a simple monument to the fluidity of digitalized capitalism. Yet great creative individuals often have an amazing capacity to internalize qualities of landscape, light, and cultural traditions. I am here thinking, for instance, of Louis Kahn's serene, sublime works in Ahmadabad and Dhaka (we remember that Kahn was a Jewish immigrant from the remote Estonian island of Saaremaa).

But, again, whether building anew or working within existing circumstances, the architectural task calls for the synthesizing of poetic talent. As Alvar Aalto suggested in 1955: "In every case [architectural task], one must achieve a simultaneous solution of opposites … This harmony cannot be achieved by any other means than those of art." ■

The Saint-Pierre church in Firminy, an industrial city in the Loire Valley near Saint-Etienne, France, sits on a knoll near Le Corbusier's youth center (called la Maison de la Culture) of 1965, and his municipal stadium of 1966, not far from his Unité d'habitation, finished in 1967. The church, owned by the local and regional governments, functions as a meeting hall but will be consecrated in a few months for religious use.

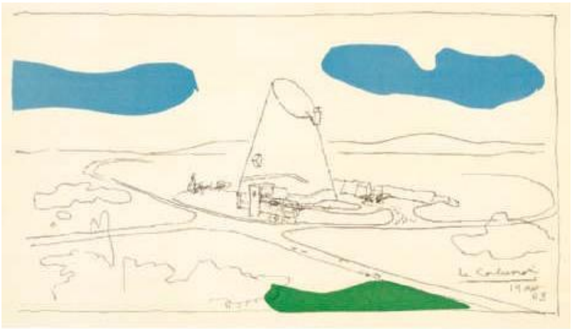


Le Corbusier and José Oubrerie are unusual collaborators on the EGLISE SAINT-PIERRE DE FIRMINY, whose design took 43 years to complete in the Loire Valley

By Jeffrey Kipnis

Blunt, thickset, elemental—these are your first impressions, having turned through the close neighborhood streets of Firminy and come upon the Eglise Saint-Pierre Firminy-Vert in the widening expanse of its suburban setting. As you approach, you find you have been further deceived: the pyramidal mass does not rest staunchly on the ground like the mountains in the background, but alights on a fragile base of glass and a thin concrete wall.

Alerted, you soon notice other surprises: positively the smallest cross ever to grace a Catholic house of worship, a checkerboard roof, and a menagerie of odd appurtenances attached to the volume—one thing looks like a nose, another a mouth, an ear, and yet another, an eye popping out. The inelegance of all these elements almost seems calculated to undermine the sense of gravitas promised by the building's initial impact.



Le Corbusier's lithograph, *L'Eglise Saint-Pierre à Firminy*, 1963, is in the collection of the Musée d'Art Moderne Saint-Etienne Metropolis.

Entering the grounds of the church, you ascend a knoll along a graveled path before coming to a bridge whose high outer wall cuts off the view to the outside world, an encouragement to shed all petty tribulations before crossing to its hallowed precinct. With each step you slip further into a devotional calm. Until you reach the portico. Interrupting the mood, a wall forces you to turn abruptly toward a front door whose flat color panels and cold frontality slap away any trace of reverie. Although you cannot know what the door means or represents, it insists that you think about it, and the intellectual demand of its conceptual abstraction yanks you back from the realm of the sacred to the secular.

Shaking off that rude arrest, you proceed into a cavernous nave resonating with echoes and awash in concrete's drab shadows. Once inside, you are mesmerized by a constellation of white pencils of sunlight streaming through the thick air from the perforated east wall.

Eventually, you loosen yourself from the astral display, look around to get your bearings, and notice the shallow niches that ring the space with dashes of reflected color. Offsetting the sensational constellation with a memory of stained glass, they become bits of decorative irreverence: red, blue, yellow, green. Are these not the very colors you just met at the door? Finally, as you move up the warped floor to take a seat, you glance up to the shadow-black ceiling, where a red rectangle and a yellow circle beckon in the celestial distance. Sun and moon? Good and evil? You do not give these evocations too much thought: Their geometry and color do not insist upon it. But then, if these mysteries are divine light, should there not be only one?

Whatever your reaction to the church is, you cannot deny that you are in the presence of a flagrantly unforgettable architectural opus. Yet, as you depart and think back on how often the architecture of the church transported you to the brink of transcendence only to drag you back to the worldly realm, you might find yourself wondering if it is not somehow locked in a schizophrenic struggle with itself.

Conception and initial construction, 1961–2001

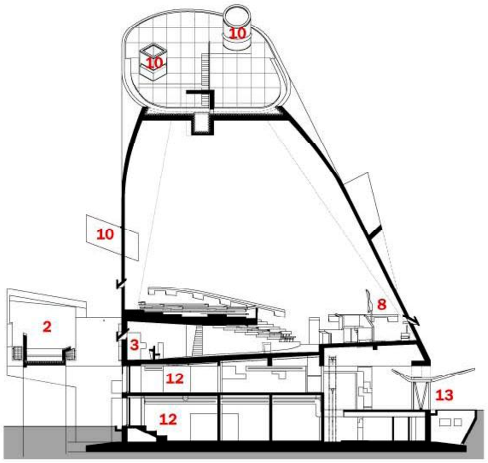
The basics are well-known: In 1961, Le Corbusier received a commission for a church in Firminy, a small mining town in central France, where he had

Jeffrey Kipnis, a critic and theorist, is an architecture professor at Ohio State University, Columbus. His essay is excerpted and adapted from "A Time for Freedom," published in the catalogue accompanying the exhibition Architecture Interruptus*, held from January 26 to April 15, 2007, at the Wexner Center for the Arts, Ohio State University.*

To join a **forum discussion** on the posthumous completion of architecture, go to **architecturalrecord.com/projects/**.

Project: *Eglise Saint-Pierre de Firminy-Vert, Firminy, France*
Architect: *Le Corbusier; José Oubrerie, assistant (1960–65); José Oubrerie and Louis Miquel (first phase construction, 1968–70); José Oubrerie (second phase, 1970–79); José Oubrerie, chief architect; Yves Perret and Aline Duverger, managing architects for site construction; Romain Chazalon, project architect and digital design*

PHOTOGRAPHY: © ROLAND HALBE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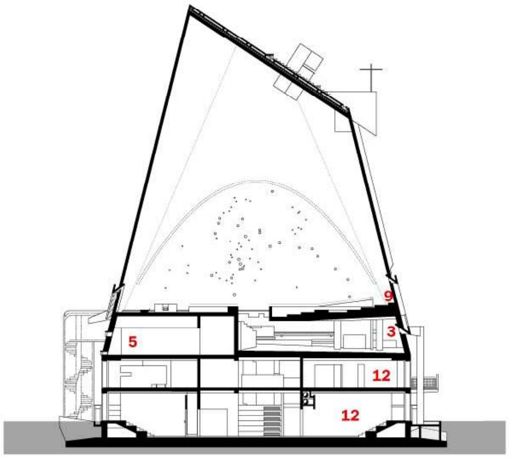

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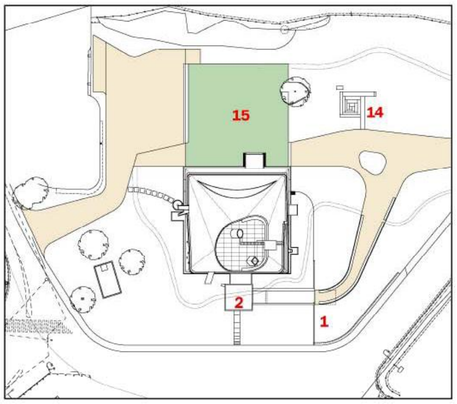
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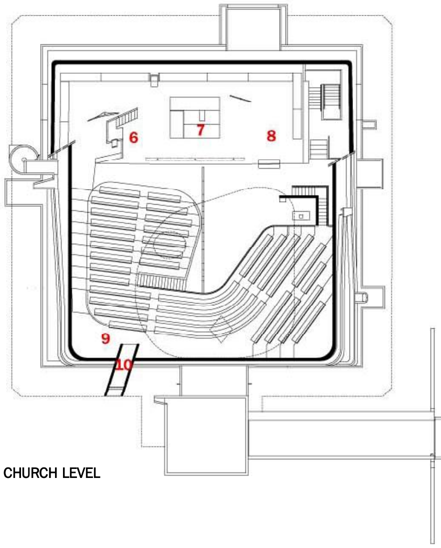
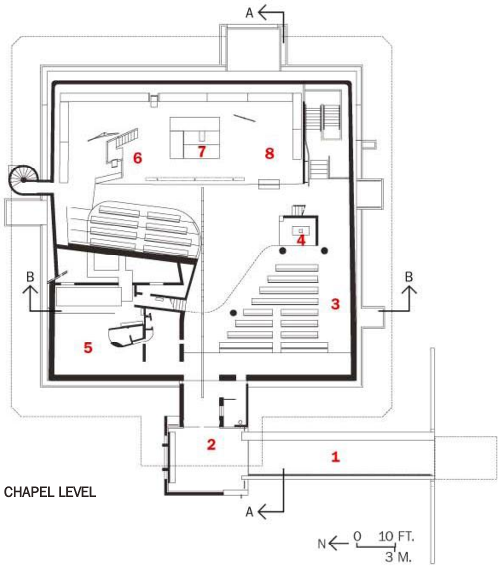
SITE PLAN

1. *Entry ramp*
2. *Entrance*
3. *Chapel*
4. *Chapel altar*
5. *Sacristy*
6. *Pulpit*
7. *Altar*
8. *Sanctuary*
9. *Church balcony seating*
10. *Light cannon*
11. *Reception desk*
12. *Museum galleries*
13. *Gallery entry*
14. *Inverted-pyramid sculpture*
15. *Lawn*

As the plans and sections (this page) illustrate, the sanctuary occupies a conically shaped concrete form sitting on a square base, which adjoins a square green lawn (site plan, left). An outdoor ramp, bridge, and portico bring visitors into the church, where they find themselves on a gently sloping floor that takes them up into the sanctuary, past a chapel, which is tucked underneath the sanctuary's balcony.



CHURCH LEVEL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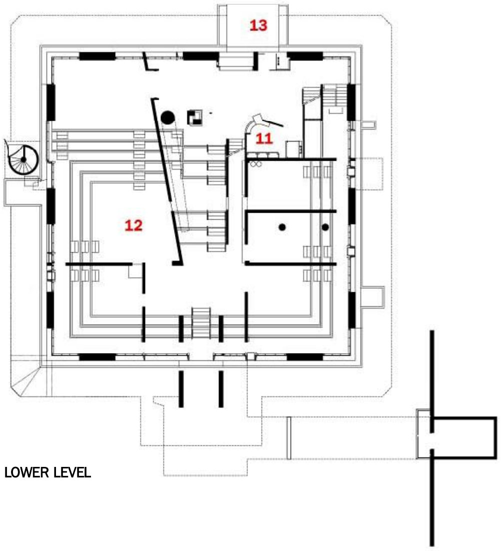
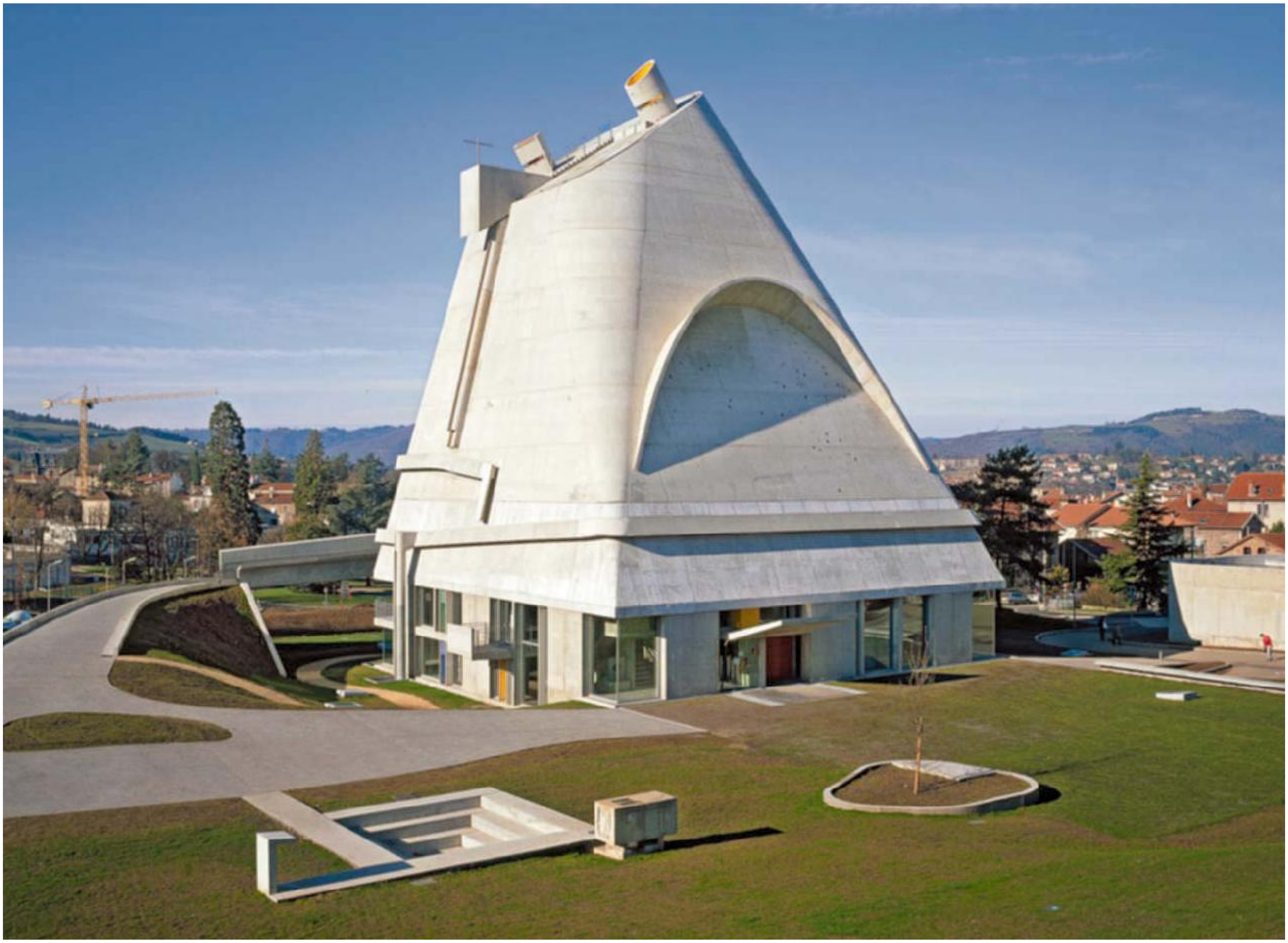
CHAPEL LEVEL



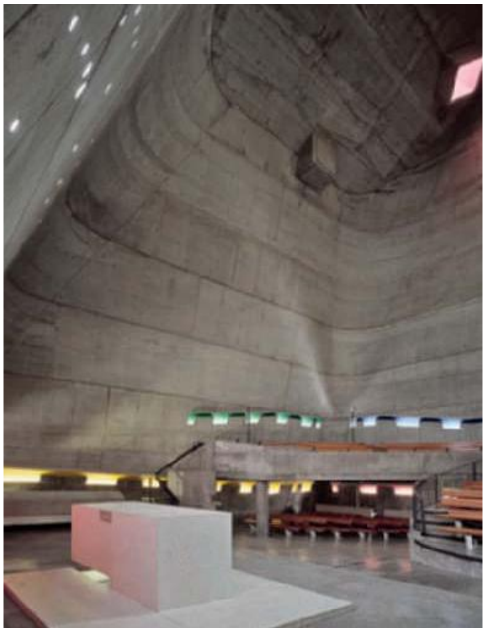
LOWER LEVEL

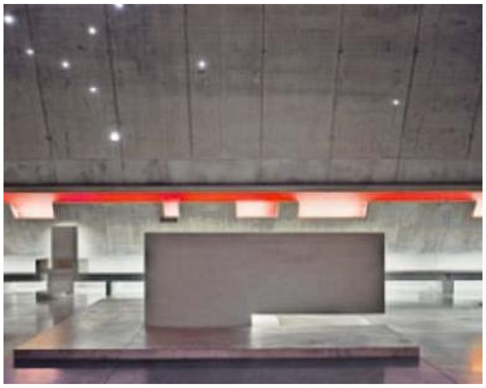


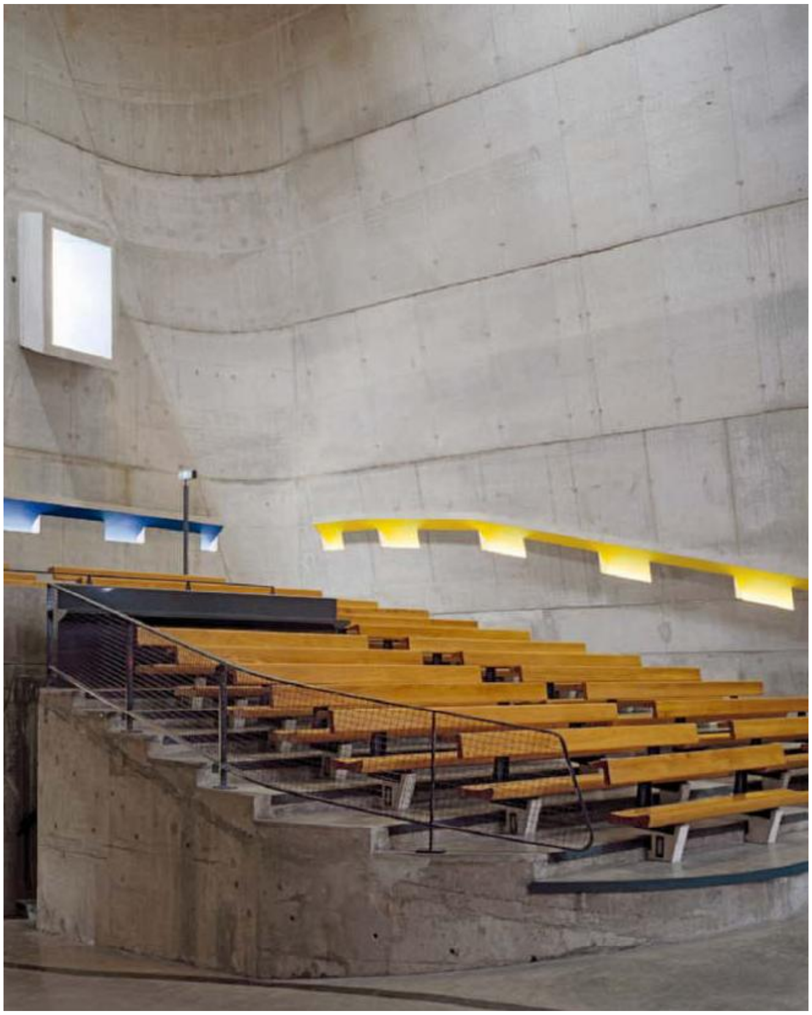
Visitors pass by a sunken inverted-pyramid sculpture (above) before taking the entrance ramp and bridge to the portico. There a colorful front door (left) awaits.

already designed a Unité d'habitation apartment block, a youth and cultural center, and a stadium. Working with his assistant, José Oubrerie, Le Corbusier developed a design over the ensuing 18 months. Support for the project dwindled, and by 1963 work in the studio stopped; two years later, Le Corbusier died. Oubrerie strove to complete the design and realize the church. In 1971, a sporadic construction process got under way, proceeding as far as the square base of the concrete building and the first ring of the shell. Lacking the commitment of church authorities and the backing from Firminy's new civic administration, construction came to a standstill in 1978. In 1999, to thwart possible plans to clear the site, the Association for the Construction of Firminy Church persuaded the French Ministry of Culture to declare the abandoned construction a historic landmark. Faced with the prospect of forever hosting a dilapidating concrete hulk as its most famous architectural attraction, the town resolved to finish the church. Oubrerie and project architect Romain Chazalon began work again in 2001, and five years later it opened.

Notwithstanding the saga of its gestation, the interest arising







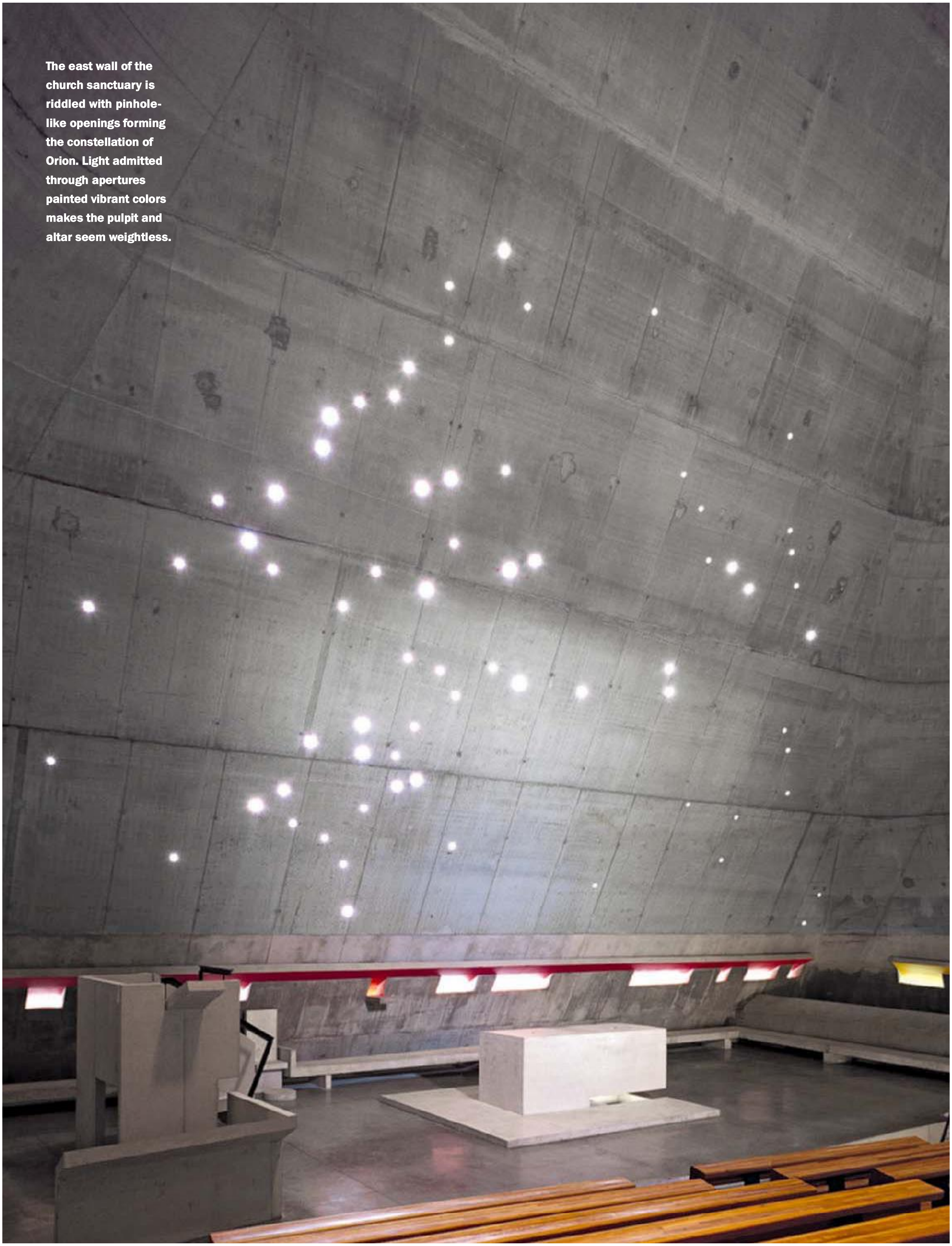
In the concrete-walled sanctuary (above right), oak benches are located under a light cannon, while the altar (above left two) is bathed in light coming through apertures.

from the completion of the church rightly derives from the merits of Le Corbusier's original ideas and the relation of the finished building to them. Oubrerie was intimate with Le Corbusier's vision of the work; he executed the first drawing interpreting preliminary sketches, as well as every drawing and model to follow—without exception. He protected his mentor's original intentions with passion. But inevitably time and Oubrerie's own architectural personality colluded to nudge the work toward a more contemporary expression.

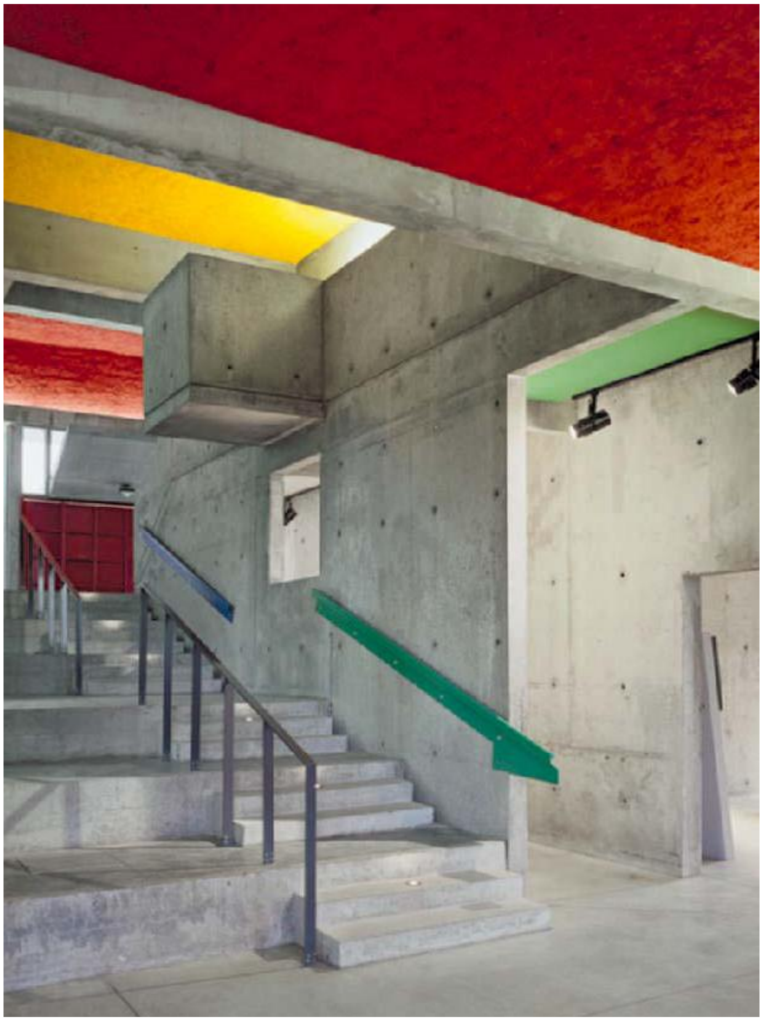
Sacred architecture posed a small dilemma to Le Corbusier: Even though he was well attuned to its devices, he saw his place in history secured by an unwavering commitment to the modernity of his secular architecture. He tried to resist the Firminy commission, conceding only because it came at the behest of his friend Eugène Claudius-Petit, the mayor of Firminy, who had commissioned the other buildings from him. Le Corbusier wrote to Claudius-Petit, "I shall do it for the workers." As for Oubrerie, when asked to comment on the building's worthiness as a church, he deferred the judgment to others. "In any case," he added, "I am an atheist."

Le Corbusier first addressed the issue of sacred structures in 1929—the year Villa Savoie was finished, a compelling example of his five points of architecture: pilotis, free plan, free facade, horizontal sliding window, and roof garden. Sketches for his first church commission, Le Tremblay, indicate an inclination to synthesize the traditional processional of religious architecture with the more egalitarian five points. Sketches of the unrealized Tremblay project show an ascending ramp spiraling around the outside of the extruded square of the church. When work began on the Eglise Saint-Pierre, Le Corbusier revisited Tremblay's long-dormant diagram, replacing the square with a hyperbolic parabaloid form.

By 1963, Le Corbusier had built two of his most admired buildings, both, ironically, religious works—the convent Sainte-Marie de La Tourette (1953) near Lyons, and the pilgrimage chapel Notre-Dame du Haut in Ronchamp (1955) near Strasbourg. Nevertheless, early sketches of Firminy reveal that his internal struggle with a dilemma continued. Though the abstract geometry of the hyperbolic parabaloid form was clearly meant to break with the architectural traditions of the Catholic Church, Le Corbusier's first sketches revealed his intention to include a customary rose window. For structural reasons, he abandoned this idea, replacing the window with the oculi in the form of the constellation of Orion.



The east wall of the church sanctuary is riddled with pinhole-like openings forming the constellation of Orion. Light admitted through apertures painted vibrant colors makes the pulpit and altar seem weightless.



Jolts of color and natural light enliven the exposed concrete interior, as shown by an aperture in the sanctuary (above) and stairs leading from the church down to galleries slightly below grade (left). Four galleries and a conference room in the square base, partially submerged below grade, now belong to the Musée d'Art Moderne Saint-Etienne.

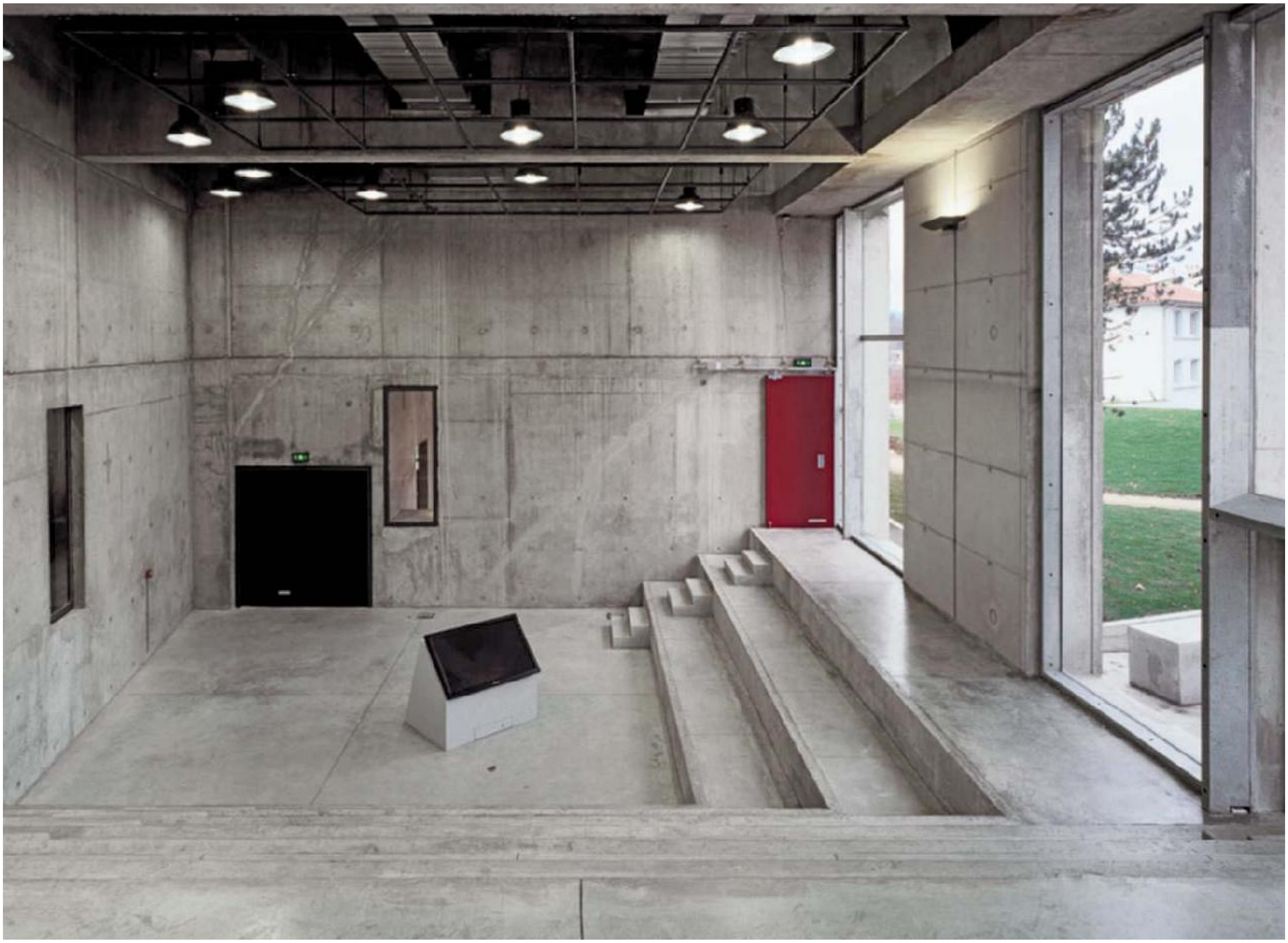
In his *Oeuvres Complètes*, Le Corbusier remarks tersely that Firminy "consists of a hyperbolic paraboloid shell, and, after Ronchamp and La Tourette, represents a third, new type of church." Firminy indeed came to be seen as the unfinished finale to a sacred trilogy. The convent at La Tourette drew on his approach to secular housing: He created a powerful square block with three sides of monastic cells and a cruciform chapel as the fourth side. The north transept of the chapel nestles inside the square, but the south transept protrudes out, supplementing the rational block with an episode of expressive spirituality. At Ronchamp, La Tourette's square plan loosens; free forms billow out of it, their spiritual passion unfettered by geometry. However affecting, Ronchamp's abandon seems out of character: For Le Corbusier, it was a regression from a modern to a romantic world view.

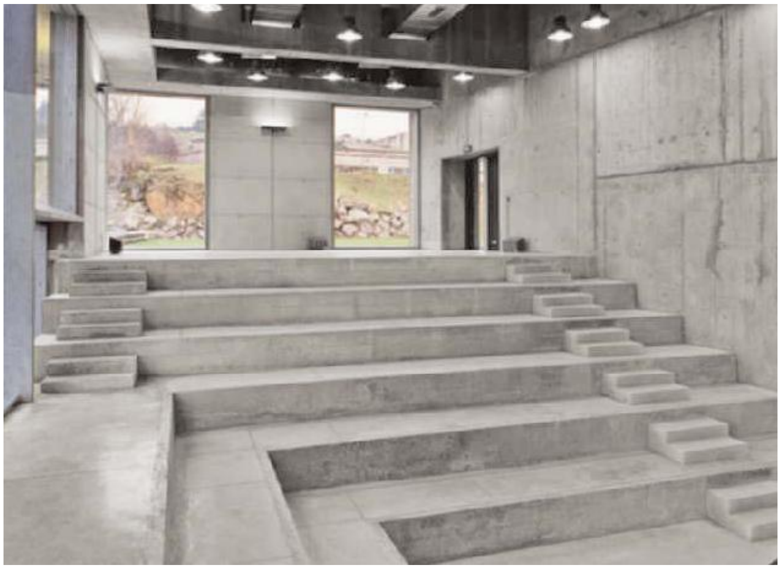
In the Firminy church, we find La Tourette's square base beneath Ronchamp's sculptural sanctuary now disciplined by the hyperbolic paraboloid. This consummate synthesis generates an advance in architectural form. Le Corbusier had already employed the hyperbolic paraboloid in previous works, most notably in the Assembly Hall at Chandigarh, India (1953–63). The beguiling eccentricity of the Firminy church derives from the architect's distortion of this geometric form in his desire to morph it onto the square base.

The problem of adapting Le Tremblay's external ramp to Firminy's unusual form—and, in particular, entering the church—remained a challenge. From 1961 to 1963, Le Corbusier and Oubrerie wrestled with the entry procession through numerous design variations, and in the end that aspect remained the least resolved. The final scheme retreats from any of the developed solutions to a diagram of three elements awaiting later design: the ascent of the land, the bridge, and the portico.

Completing a chef d'oeuvre, 2001–06

José Oubrerie's personal touches at the church arise for the most part out of necessities such as finishing the design for entry. To receive crucial state funding in 2001, the Association for the Construction of Firminy Church placed a museum in the square base originally designated for the lay functions of the church. And, of course, much had changed over four decades, from construction technology to building codes to air-conditioning. The current building code, for example, required that the new walls of the concrete shell be ¾ inches (2 cm) thicker than in 1972, when the first ring was poured. Oubrerie would not tolerate any overbite on interior or exterior, so after considerable "discussion," he was allowed to taper the





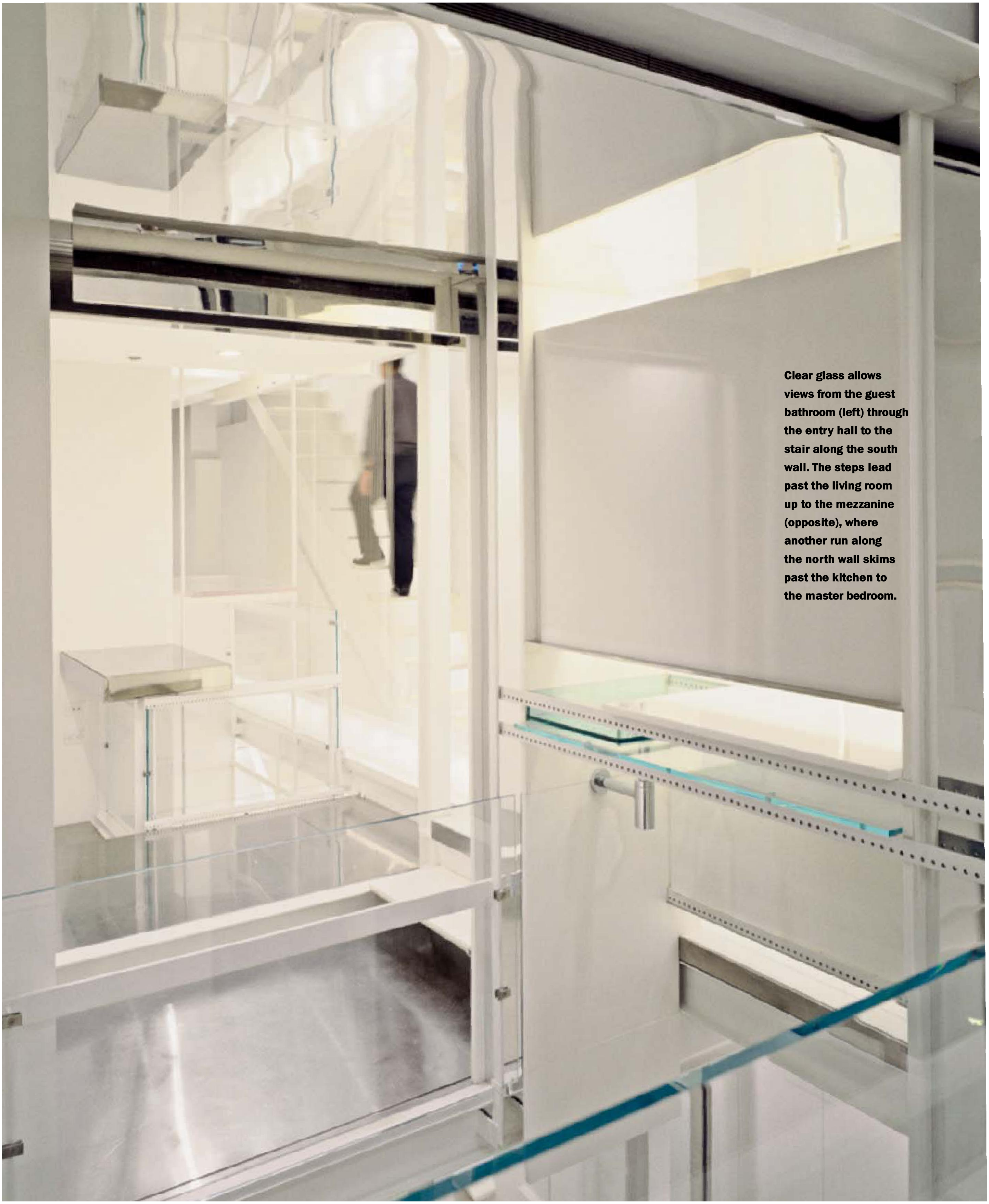
Originally planned as church meeting rooms, the stepped concrete spaces (above and left) in the building's base may be devoted to displays on Le Corbusier's Firminy projects.

thickness of the first new ring of the shell to the thickness of the existing ring.

On the other hand, other demands on the original architecture simply were not negotiable. The outside ramp that completes the spiral ascent to the sanctuary—and makes palpable the transition from the profane world to the sacred—was originally conceived at a grade far too steep for accessibility regulations. Oubrerie reduced the actual grade to a comfortable four degrees, but raised the height of the bridge's outer wall to optically give the impression of a sharper incline.

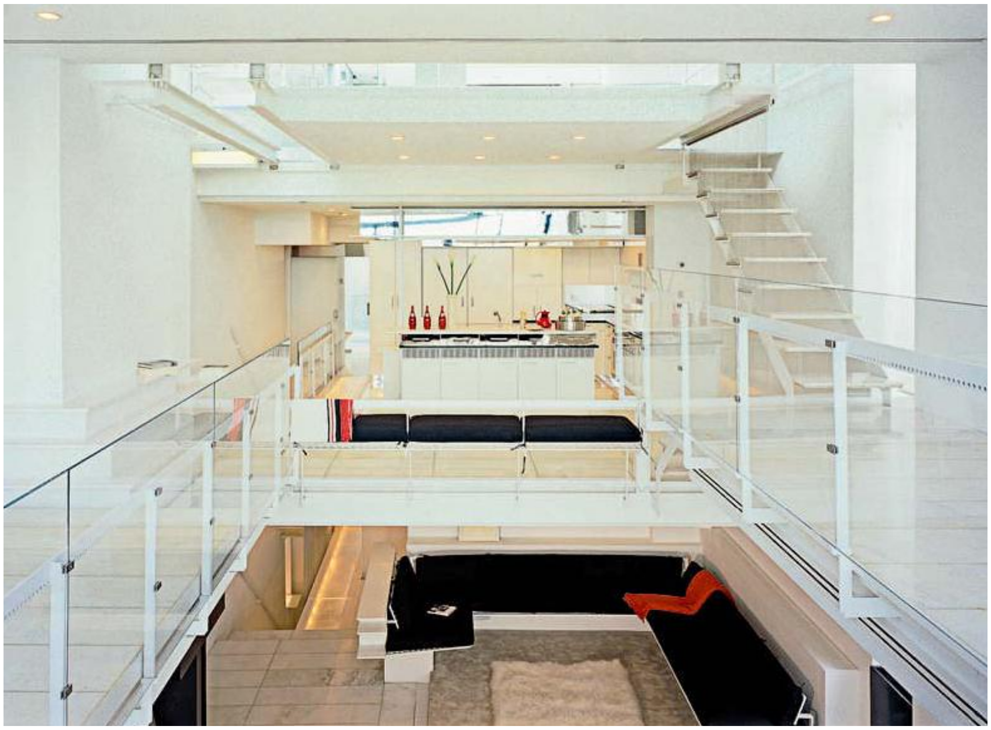
In several instances, Oubrerie simply indulged himself. For example, he removed part of the floor beneath the altar to allow the space of the church to communicate with the museum below. On the side facing the street, just in front of the portico, he left an incongruous cluster of small rectangular apertures (artifacts of the original formwork) in the otherwise monolithic apron of the cone. These tacit mementos also foreshadow the appearance of the constellation in the sanctuary.

Consciously or not, Oubrerie's myriad *(continued on page 228)*



Clear glass allows views from the guest bathroom (left) through the entry hall to the stair along the south wall. The steps lead past the living room up to the mezzanine (opposite), where another run along the north wall skims past the kitchen to the master bedroom.

Della Valle Bernheimer's thoughtful renovation of the **PAUL RUDOLPH PENTHOUSE** in New York rises from his original intentions

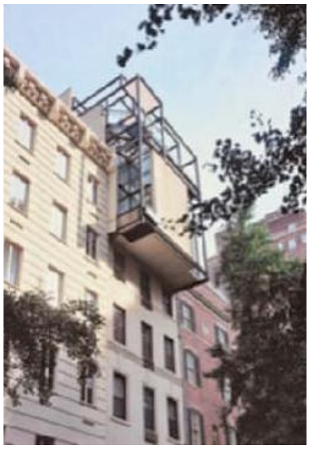


PHOTOGRAPHY: © RICHARD BARNES PHOTOGRAPHY

By Suzanne Stephens

This could be called one of the toughest renovation jobs imaginable. Actually, it's the most recent and most extensive revamping of one of Paul Rudolph's best works—his own penthouse on New York's Beekman Place, which he started in 1978. The architects, Jared Della Valle, AIA, and Andrew Bernheimer, AIA, hesitated telling friends they were working on this iteration, completed in 2006, until they could be sure it was turning out as hoped. It has. While Della Valle Bernheimer's rendition presents a muter, sparer version of the original, the architectonic essence is very much intact.

Rudolph lived in his luminous, multiple-level apartment rising atop a five-story 1900 town house on Beekman Place in New York City until he died in 1997. During the 19-year period he was there, his limpidly shimmering exercise in the play of space, light, and planes acquired a cult following in the architectural community. Its glamorous and treacherous moments were legendary: You had to thread your way from one end of the apartment to the other on transparent acrylic bridges; you went up and down its 30-some-odd split levels via ethereally planar open-riser stairs with nary a handrail in sight. Then there was the tub in the master bedroom on the top level with its transparent (acrylic again) bottom, so that daylight could make its way from the glazed roof down through water to the entry below. In spite of the vertiginous circulation and the double-height volumes carved out on both the east and west sides of the apartment, the design constantly pulled you out to panoramic views of the East River, in a symphony of contracting and expanding spaces.



Rudolph's fascination with natural light and reflective surfaces, punctuated by a collection of art objects and sculpture, prompted the

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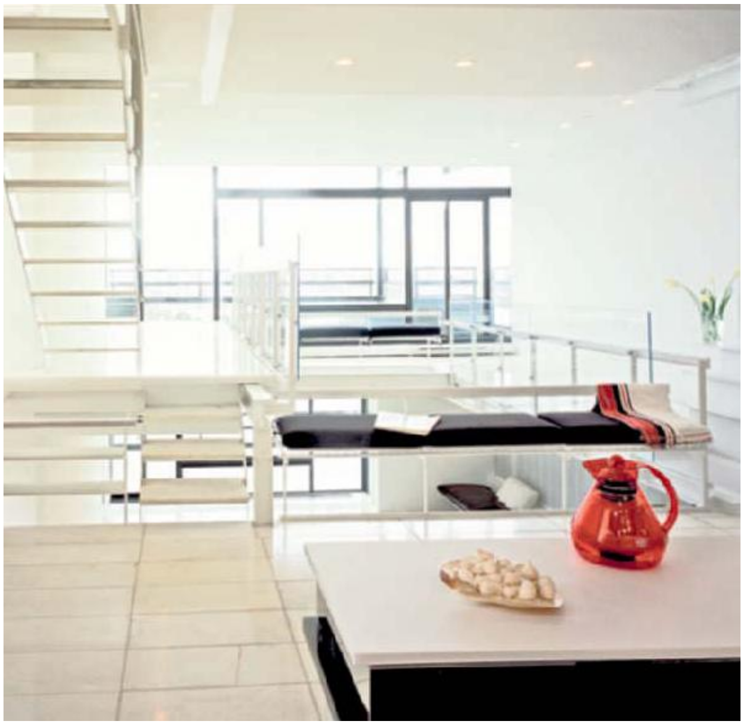
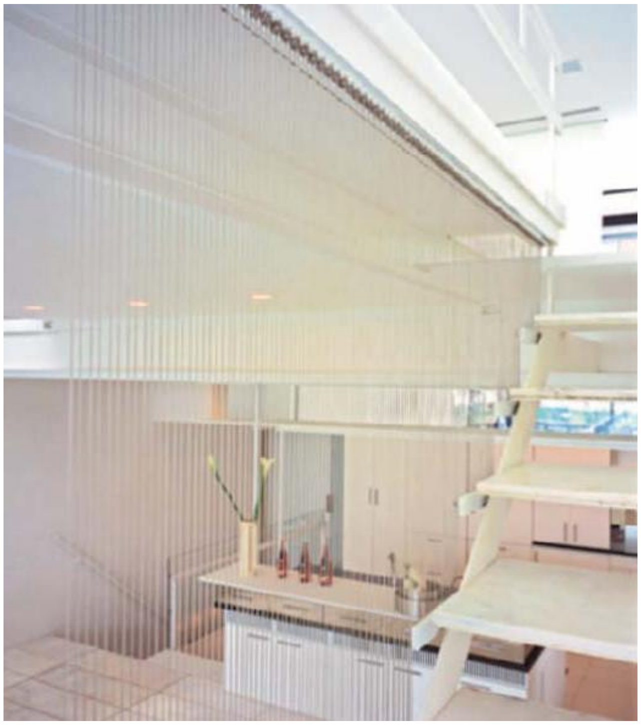
Project: *Paul Rudolph Penthouse, New York City*

Architect: *Della Valle Bernheimer—Jared Della Valle, AIA, Andrew Bernheimer, AIA, principals; Adam Ruedig, project manager*

Contractor: *CW Contractors—Corey War, president; Gregory Horgan, project manager*

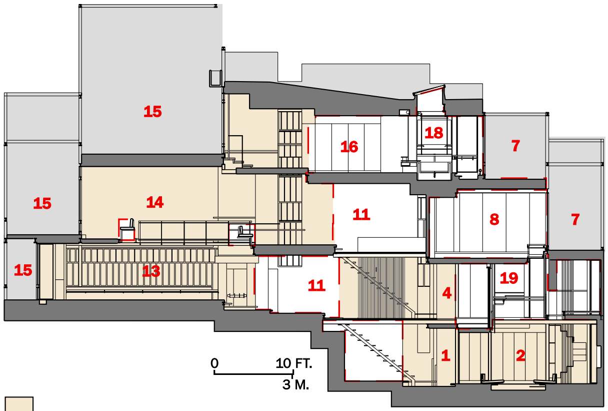
Special materials application: *Joe Ginsberg, Inc.*





The kitchen looks out toward the East River (above). A stair with a screen of stainless-steel cables leads from the mezzanine and dining area to the master bedroom (above right).

1. *Entry*
2. *Den*
3. *Storage*
4. *Second level entry*
5. *Home office*
6. *Exercise*
7. *West terrace*
8. *Bedroom*
9. *Kitchen*
10. *Dining*
11. *Corridor*
12. *Sitting*
13. *Living room*
14. *Mezzanine*
15. *East terrace*
16. *Master bedroom*
17. *Master bath*
18. *Master tub*
19. *Bath*

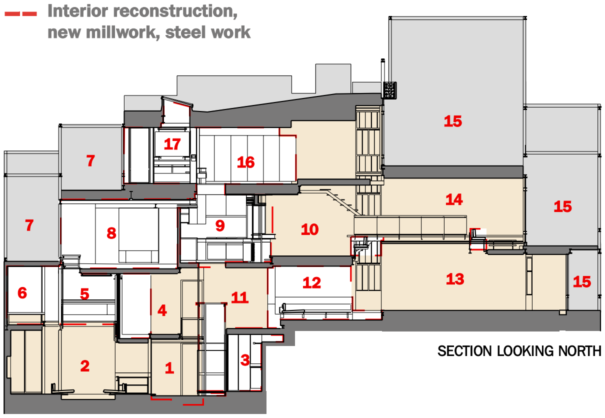


SECTION LOOKING SOUTH

🟨 **Complete exterior restoration**

⬜ **Interior restoration of building finishes, minor steel work**

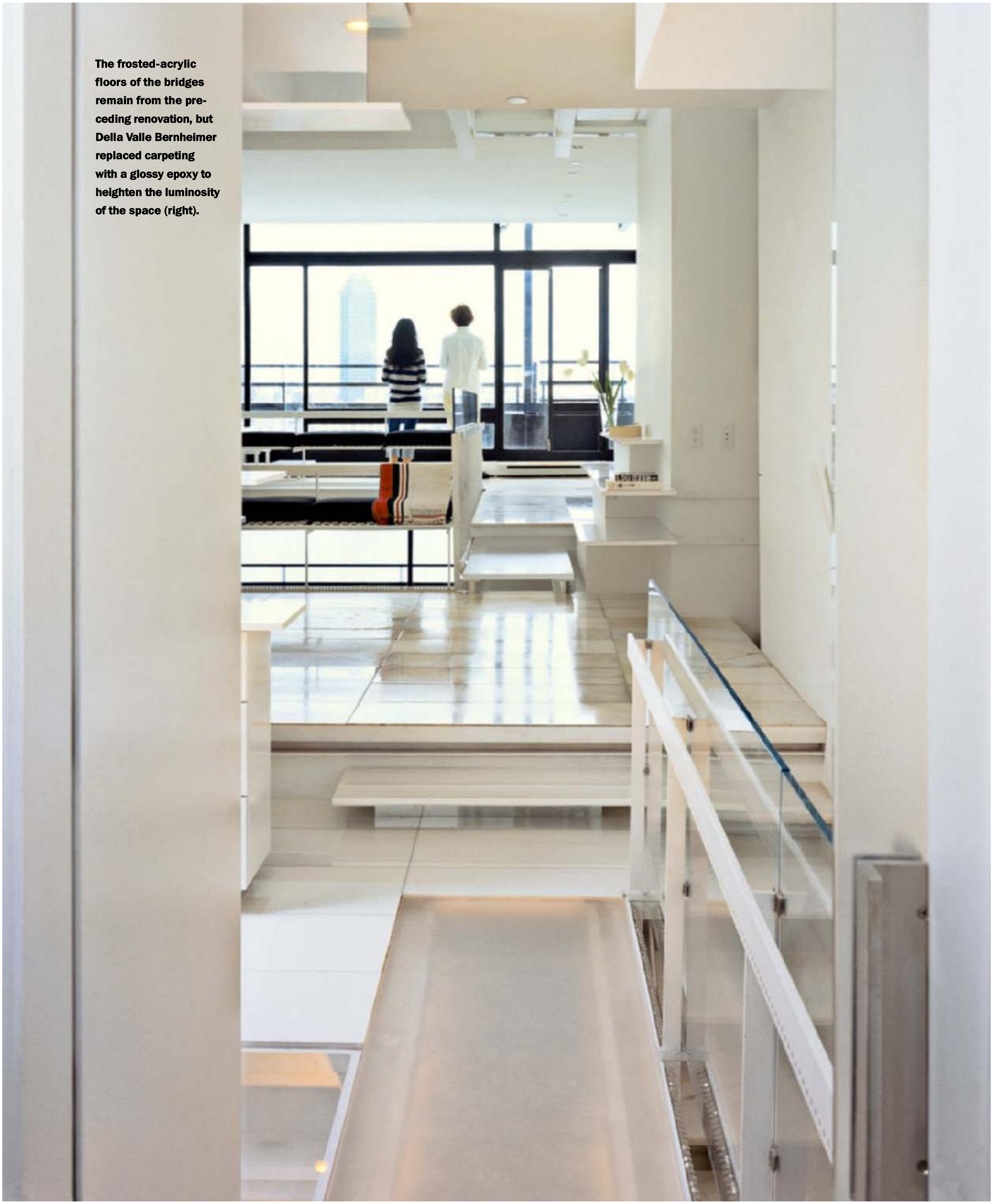
– – **Interior reconstruction, new millwork, steel work**



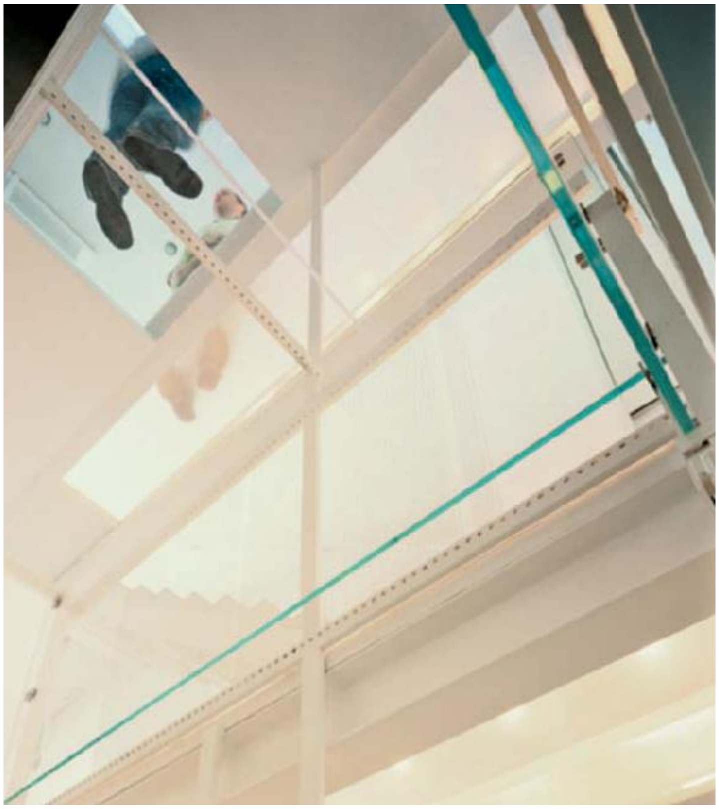
SECTION LOOKING NORTH

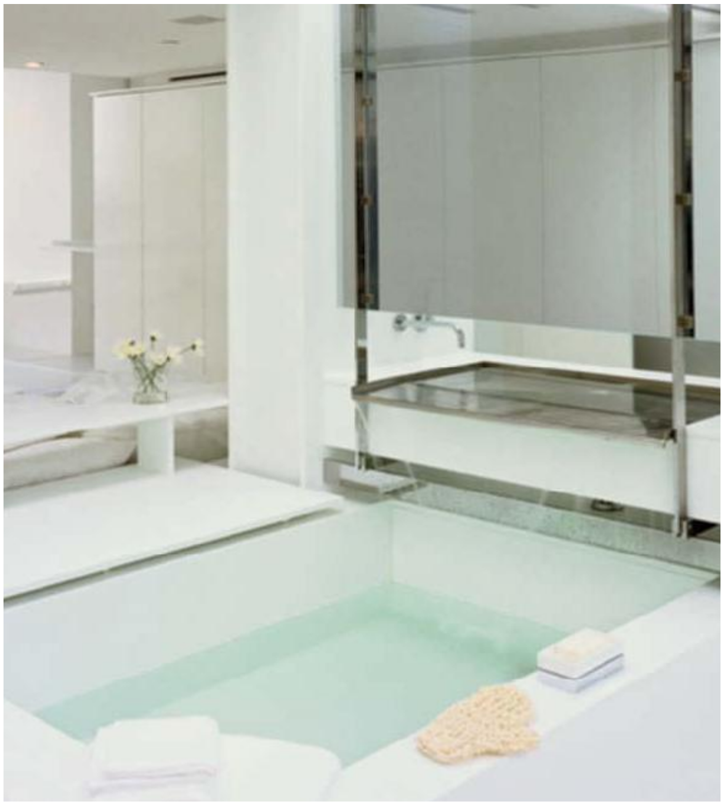
cognoscenti to compare it to Sir John Soane's house museum in London, which the eccentrically Classical architect created from 1808 to 1812. Soane kept the house intact in perpetuity by negotiating an Act of Parliament in 1833 to establish it as a museum after he died in 1837. No such luck with Rudolph. When he died, it took three years for his estate's executors to find new owners who wouldn't tear the apartment apart. Finally, in 2000, Gabrielle and Michael Boyd, art and furniture collectors with two small children, stepped in to buy the town house, including the lower floors that Rudolph had designed and leased out.

The Boyds transformed the basically four levels of Rudolph's penthouse plus the floors below it into a house museum of sorts. It attempted to offer a sympathetic testament to Rudolph's vision, while displaying a substantial collection of 20th-century Modern furniture and artworks. But the Boyds did make changes. They stripped off the chromed laminate Rudolph had applied to steel beams and columns to match the gleam of stainless steel in the floor, and they put Sheetrock under the clear tub that hung above the entry and part of the kitchen. To keep visitors (and residents) from suffering vertigo, they partially enclosed the sides of the floating stairs with vertical white-frosted-acrylic panels, and replaced the clear acrylic floors of the bridges with a translucent version. Many of the reflective and transparent



The frosted-acrylic floors of the bridges remain from the preceding renovation, but Della Valle Bernheimer replaced carpeting with a glossy epoxy to heighten the luminosity of the space (right).





After removing a dumbwaiter, the architects sealed off the shaft with clear acrylic (left). They installed a new opaque-solid-surface master tub (below) in place of the original transparent one west of the master bedroom.

planes and lines disappeared into a more ascetic white, albeit still Constructivist environment. But then the Boyds moved to California, and the building changed hands. The current owner, with his own architect, was halfway through redesigning the penthouse apartment for his use, when he felt the need for an architectural firm more in tune with Rudolph's vision. He consulted Corey Ward, president of CW Contractors, who advised him to take a chance on the 11-year-old firm Della Valle Bernheimer.

Knowing that an idiosyncratic house is best suited to the architect who created it, Della Valle Bernheimer and Ward worked hand in hand to modify the spaces for the present owner's needs while saving as much of Rudolph's concept as possible. With regard to the original design intentions, Jared Della Valle notes that "Rudolph viewed the apartment as an ongoing experiment," an observation also made by others familiar with its many early incarnations. So rather than worrying about returning to one authentic moment, the architects decided it was simply best to attempt a reinterpretation based on the architect's spatial concepts, choice of materials, and design elements.

The team acted as forensic analysts in a sense, looking at the drawings documenting Rudolph's scores of iterations, in order to put themselves in his shoes. They wanted to arrive at decisions that Rudolph might have made in responding to the current owner's different programmatic needs, and to choose improved materials and methods that Rudolph himself would have wanted if he were renovating this place now.

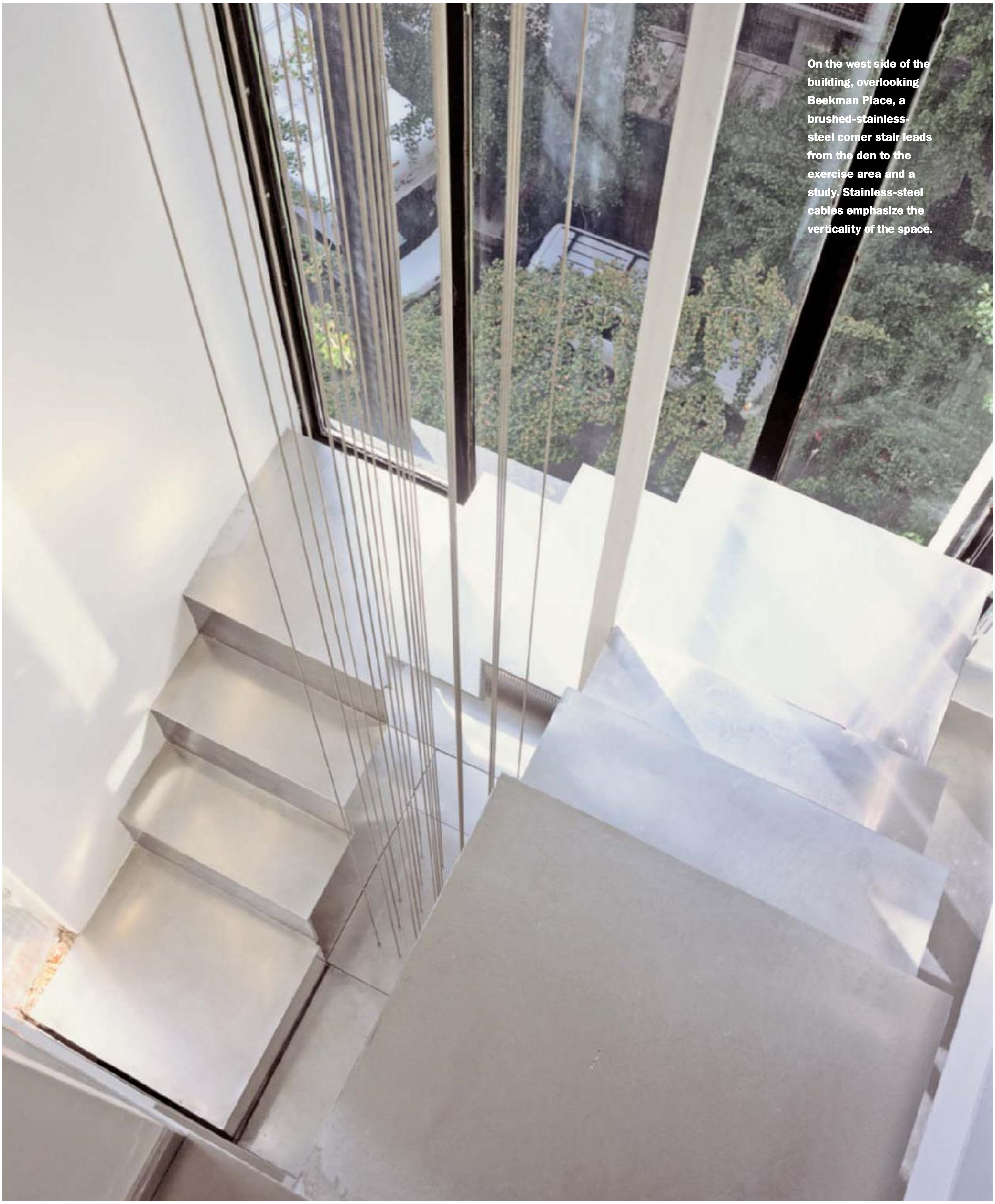
A lot of original elements had been tossed out already, including finishes that had not aged particularly well, such as carpeting, Sheetrock, and melamine, a white resin-based paper on particle board. The team pulled in Joe Ginsberg Inc., specialists in custom fabrication and materials applications, to provide such items as mirror-finished stainless steel and acid-etched, brushed, and sandblasted glass, as well as new details, such as hardware. Ginsberg sought finishes that resembled at a glance Rudolph's original choices; for example, the company gave the new wood cabinetry a varnish coating that recreated the look of melamine. Where the new owner wanted to keep the stainless-steel plates on the floors in the guest bedroom and media room, Ginsberg matched the aging stainless with a version that wouldn't appear jarringly brand-new. The architects had to kept the translucent acrylic bridges from the previous renovation, since the client wanted to avoid the expense of going back to clear acrylic. Della Valle Bernheimer, however, removed a dumbwaiter and sealed the shaft with clear acrylic to create a transparent light well running vertically through the apartment.

The architects slightly raised Rudolph's low seating areas that scraped the floor. Instead of carpeting, they installed an epoxy surface with a sheen echoing the often smooth waters of the East River outside. To fend off twinges of vertigo, the architects substituted vertical screens of parallel stainless-steel cables with rivets along the edges of stair treads (not unlike some Rudolph had used), which are more diaphanous than the vertical louvers enclosing stairs in the Boyd renovation. Clear glass panels now form the mezzanine balustrade instead of the white, frosted acrylic of the Boyd years, or the gleaming acrylic of the Rudolph era.

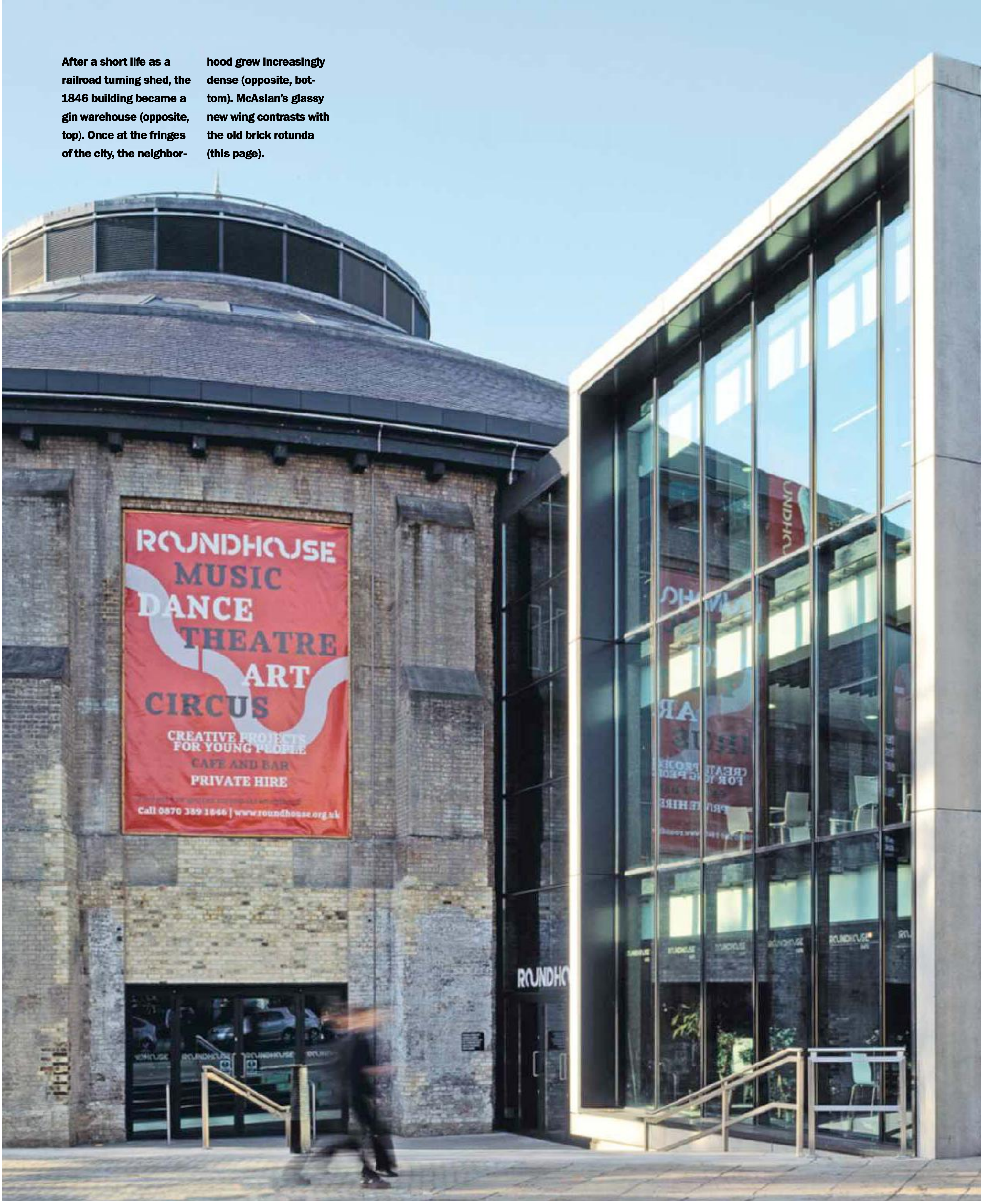
Other changes involved reconfiguring the kitchen and redoing the bathrooms, which had to have new plumbing and electrical fixtures, along with solid-surface counters and cabinets. The master bath needed enlargement, although the owner wanted it in the same spot.

If Della Valle Bernheimer thought the interior was beyond problematic, it soon found out the exterior

(continued on page 230)



On the west side of the building, overlooking Beekman Place, a brushed-stainless-steel corner stair leads from the den to the exercise area and a study. Stainless-steel cables emphasize the verticality of the space.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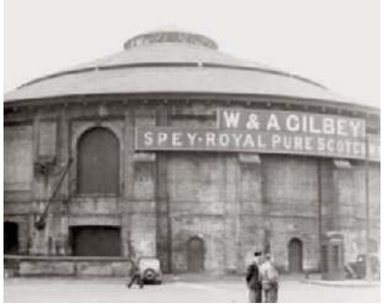
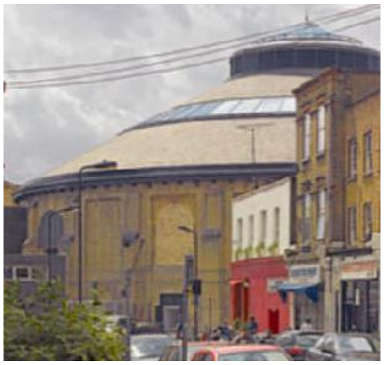
ROUNDHOUSE

After a short life as a railroad turning shed, the 1846 building became a gin warehouse (opposite, top). Once at the fringes of the city, the neighborhood grew increasingly dense (opposite, bottom). McAslan's glassy new wing contrasts with the old brick rotunda (this page).

John McAslan + Partners revives London's ROUNDHOUSE, a free-spirited performance venue with multiple past lives

By Sarah Amelar





Reincarnation has long been a way of life for the Roundhouse, a cylindrical building in the Camden section of north London. When the sturdy brick structure, designed by engineer Robert Dockray, went up in 1846, it was a state-of-the-art shed for servicing and turning steam locomotives. But its great turntable, capable of carrying 24 train engines at once, came to a halt less than a decade later as locomotives became too long to fit into the 157-foot-diameter rotunda. Gilbey's Gin, then newly founded, took over the shed, using it for the next half-century to warehouse barrels of booze. But the wild times really began after the gin-makers were gone: In 1964, playwright Arnold Wesker hit on the idea of turning the long-vacant and derelict Roundhouse into a populist performance venue, called Centre 42.

The place quickly became the raw-edged domain of experimental theater and music. Pink Floyd, Jimi Hendrix, the Doors, Jefferson Airplane, Chet Baker, David Bowie, and others commanded its stage, as did *Hair*, the scandalous *Oh Calcutta!*, and impromptu "happenings" (one with naked people slithering through Jell-O). "There was a constant fog of incense and dope and the strong smell of patchouli … extremely psychedelic," recalls one member of the Roundhouse's 1960s audience. Later, when punk rock struck London, the rotunda was again at the epicenter. But by 1983, a lack of funds closed Centre 42.

The brick-lined shed, with an interior ring of cast-iron columns and wrought-iron suspension rods soaring to a central roof lantern, lay vacant for a decade. Though the structure was landmark-protected and therefore not in danger of demolition, proposals to revive it—as a Black Arts Centre, for example, or a home for the RIBA drawing collection—failed.

Then, in 1996, retired toy magnate Torquil Norman bought the property for a reported £3.9 million ($6 million, at that time) and, forming the Roundhouse Trust, launched plans for an upgraded performance space and, in the vaulted undercroft beneath it, a creative center for people ages 13 to 25. Norman envisioned a place that would offer, free or at nominal cost, workshops on topics ranging from radio and TV production to sound mixing, photography, graphics, circus, and drama, as well as the use of a small auditorium. "To get to young people, you have to provide the facilities and let them do as they want," he told the local *Hampstead & Highgate Express*. "Those great big schemes delivered by civil servants don't work."

After hiring Foster+Partners to perform a feasibility study, the trust opened the project to competitive bidding to make it eligible for National Lottery funds. Through an interview process, John McAslan + Partners, a firm that later adaptively restored such historic buildings as Mendelsohn and Chermayeff's 1935 De La Warr Pavilion, won the commission. "In the interview," McAslan recalls, "I told Torquil the Roundhouse's rawness should be expressed, should shine through, in whatever was done—a viewpoint I knew he shared. I also said I didn't think the project should cost more than £10 or 11 million."

In the end, McAslan's scheme actually cost £30 million (approximately $56 million) to execute, keeping the industrial grittiness perceptibly intact, while restoring the 19,350-square-foot rotunda's spatial integrity and stealthily slipping in 21st-century technological and acoustic upgrades.

From the start, the architect impressed on Norman the need to acquire adjacent land parcels (which the trust ultimately did) for a new wing that would curve around part of the existing drum, housing spaces ancillary to the performance rotunda: administrative offices, restrooms, a restaurant, two cafés, the 120-seat auditorium, as well as an atrium foyer for the complex's main entry and grand new interior stair. As a performance venue, the Roundhouse had been a famously challenging place to bring equipment and crowds in and out. So solving the circulation in subtle yet effective ways—for the front and back of the house—was key.

One the scheme's most radical aspects entailed major earthmoving, giving the lower level and main performance rotunda spatially close but

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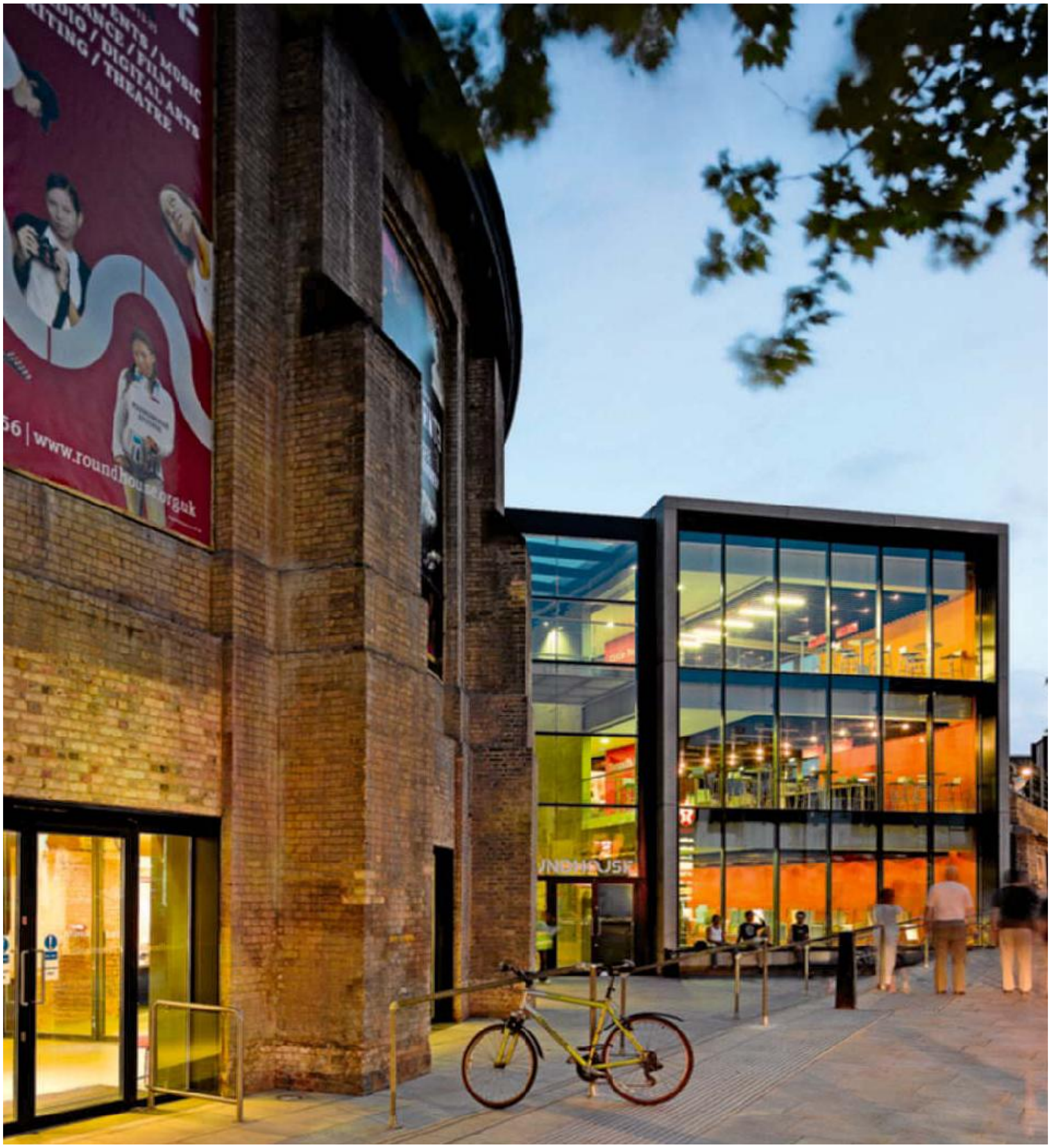
Project: *The Roundhouse, London*
Architect: *John McAslan + Partners—John McAslan, Mark Cannata, Adam Brown, Oliver Wong, Claire Sa, Don Orike, Graham Ford, Greg McLean, Siggi Nepp, Tina Kimninou, Nigel Muntzer, Mieke Tanghe, Eric Hallquist, Erica Cotton, Kevin Murphy, Jonathan Shaw, Ben Davidson, Bob Updegraff, Martin Harris*
Engineers: *SKM Anthony Hunt (structural); Buro Happold (m/e/p)*

PHOTOGRAPHY: © RICHARD BRYANT/ARCAID, EXCEPT AS NOTED; COURTESY GILBEY ARCHIVE (THIS PAGE, TOP); © PETER COOK/VIEW (OPPOSITE)

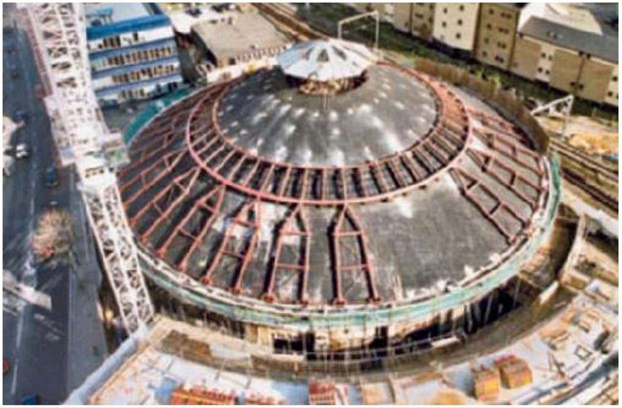


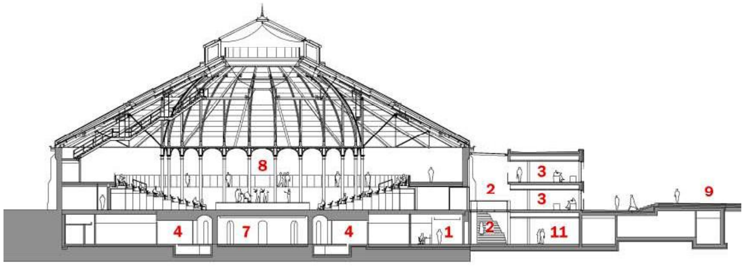
McAslan provided for potentially independent entry routes into the main performance space and Roundhouse Studios, respectively (left). For the rotunda interior (opposite), the architects recreated a halo of skylights, giving the openings double panes, separated by 3 feet of air space for acoustic isolation. Sunlight can now enter through this ring, as well as the central roof lantern. The original cast-iron columns and wrought-iron suspension rods remain, but do not support the new gantries, which hang from McAslan's conical web of steel (bottom, far left).

PHOTOGRAPHY: © HUFTON + CROW/VIEW (OPPOSITE, TOP AND BOTTOM RIGHT); BARRY R BULLEY/ COURTESY THE ROUNDHOUSE TRUST (BOTTOM LEFT); AMPC STUDIOS (OPPOSITE, BOTTOM LEFT)

The architects retained the roof's original underside of exposed timber (far right) and topping of slate shingles, but between those surfaces, inserted acoustic materials and a steel structure (near right) to support new gantries and catwalks.

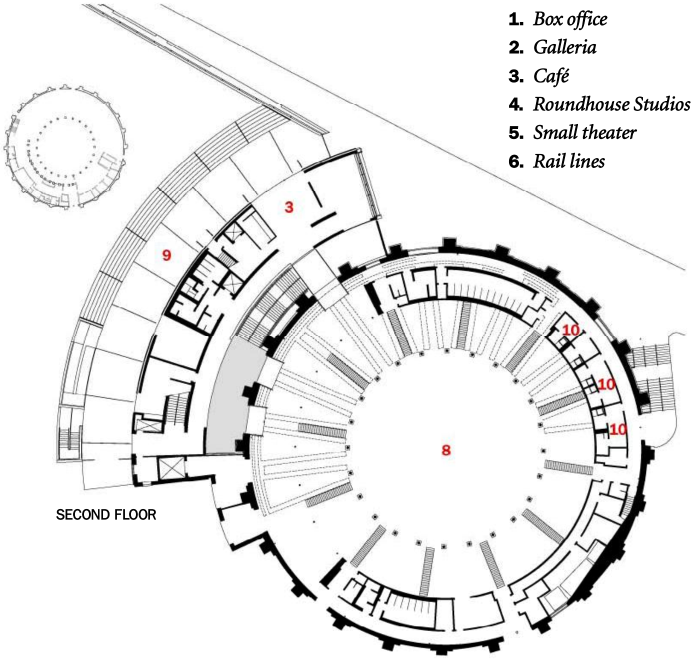
The seats, on palettes, are removable or reconfigurable, as for theater-in-the-round (opposite, bottom left). The undercroft's brick vaults (opposite, bottom right)—once ash pits to collect steam-engine waste—now form the Roundhouse Studios.





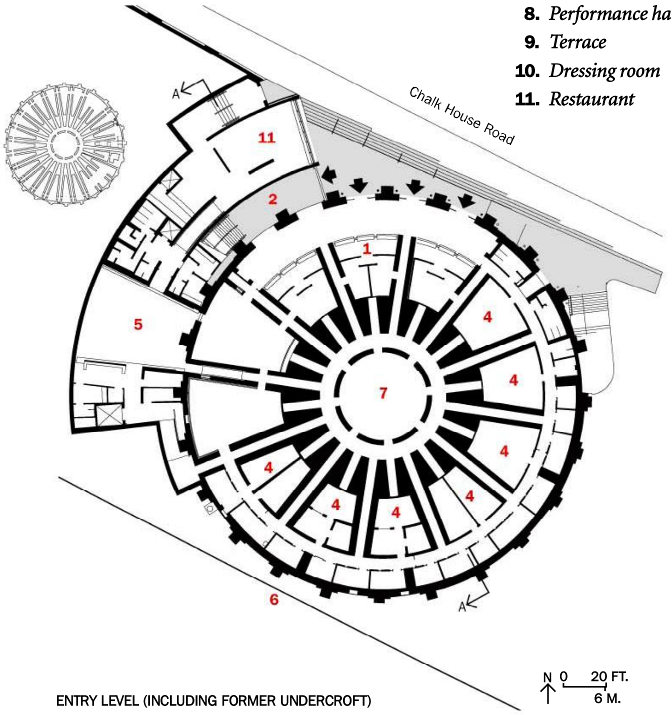
SECTION A-A

1. *Box office*
2. *Galleria*
3. *Café*
4. *Roundhouse Studios*
5. *Small theater*
6. *Rail lines*

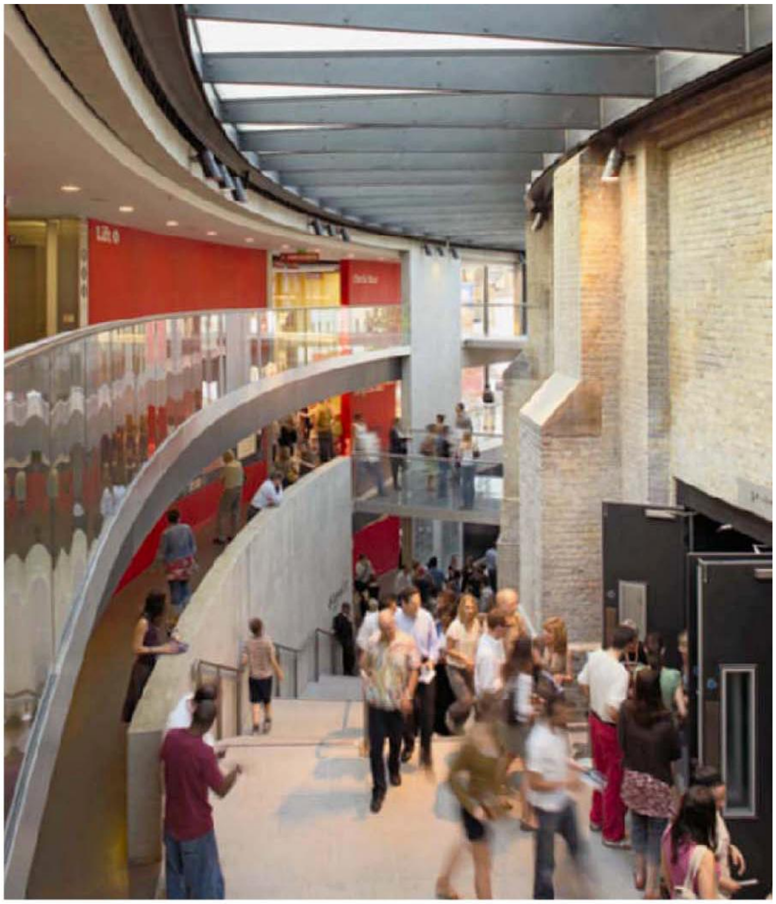


SECOND FLOOR

7. *Hub common area*
8. *Performance hall*
9. *Terrace*
10. *Dressing room*
11. *Restaurant*



ENTRY LEVEL (INCLUDING FORMER UNDERCROFT)



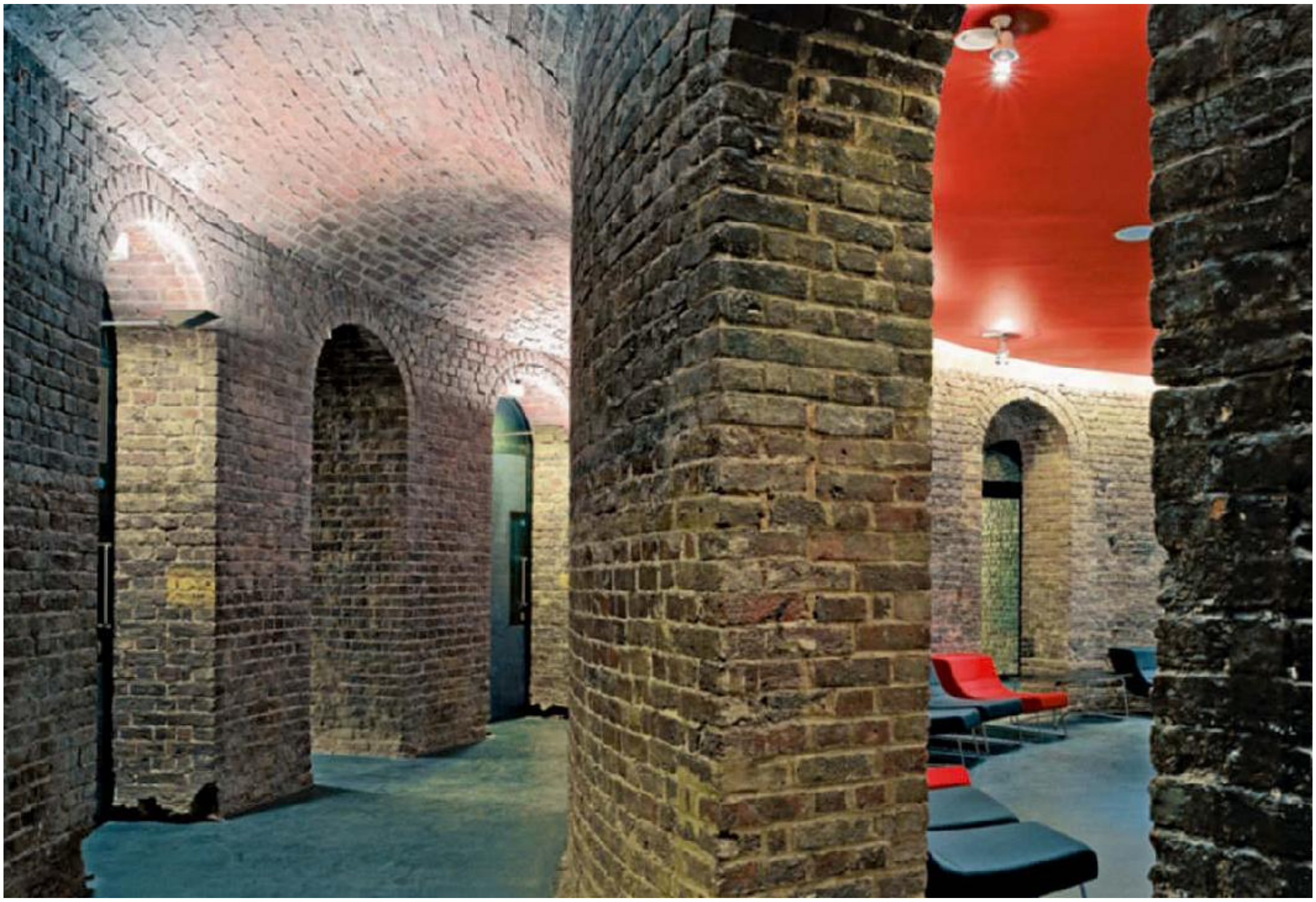
potentially independent entry routes. Sited on sloped terrain, the great drum had always stood with its vaulted brick undercroft submerged below grade. By excavating the south, or downhill, side of that lower story, McAslan turned the subterranean realm into the ground floor, with entry to the youth center (called the Roundhouse Studios) directly from the sidewalk. There, in the radial brick vaults that had once received ash from locomotives and later, in the building's post-railroad era, only collected rats and stagnant water, the architect carved out a labyrinth of music practice rooms, recording studios, and editing suites. Because the undercroft was overstructured, McAslan was able to cut into the vaults, forming concentric circular pathways through the space and a common room at its hub, as well as a box office for the complex.

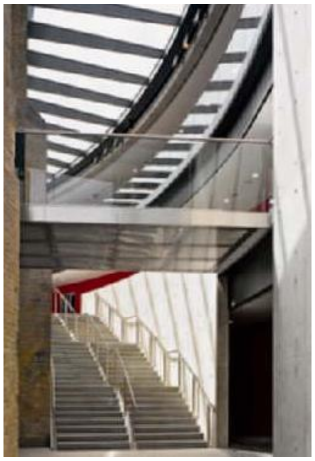
From outside, the new wing, wrapped in an understated curtain wall, appears quiet, almost like a backdrop, giving the original building center stage. But from inside, the addition, with its atrium galleria, gets more expressive. Here, the glass enclosure becomes a huge window onto the curving street, as the foyer's floor and wide, arcing stair (with the same York stone as the pavement) literally and metaphorically extend the sidewalk indoors.

Entered atop the grand stair, the restored main performance space is spectacular. McAslan kept the filigree of wrought iron in tact, while cleverly relieving it of structural loads. To carry the theater's new gantries and catwalks, the architects inserted a cone of steel members between the roof's exposed timber underside and its slate shingles (carefully reusing, or matching, the stone). Shaped like a giant lampshade, the web of steel rests on springs on the rotunda's 2.5-foot-thick perimeter walls. Between the roof's

In the skylit galleria, the grand stair curves along the rotunda's outer brick shell (above and opposite, bottom left). McAslan carved into the vaulted undercroft (opposite, bottom right) to create the youth center (opposite, top).

PHOTOGRAPHY: © HUFTON + CROW/VIEW (OPPOSITE, BOTTOM RIGHT)





original inner and outer surfaces, the team also added acoustic layers: MDF boards, insulation, and cementitious panels. Rubber pads, in addition to the springs, isolate the new roof acoustically. While the shed's massive brick shell had always provided noise insulation, even with the trains that still run right alongside it, the old roof let raucous rock concerts resonate throughout the neighborhood. Now sounds created here are both contained and enhanced.

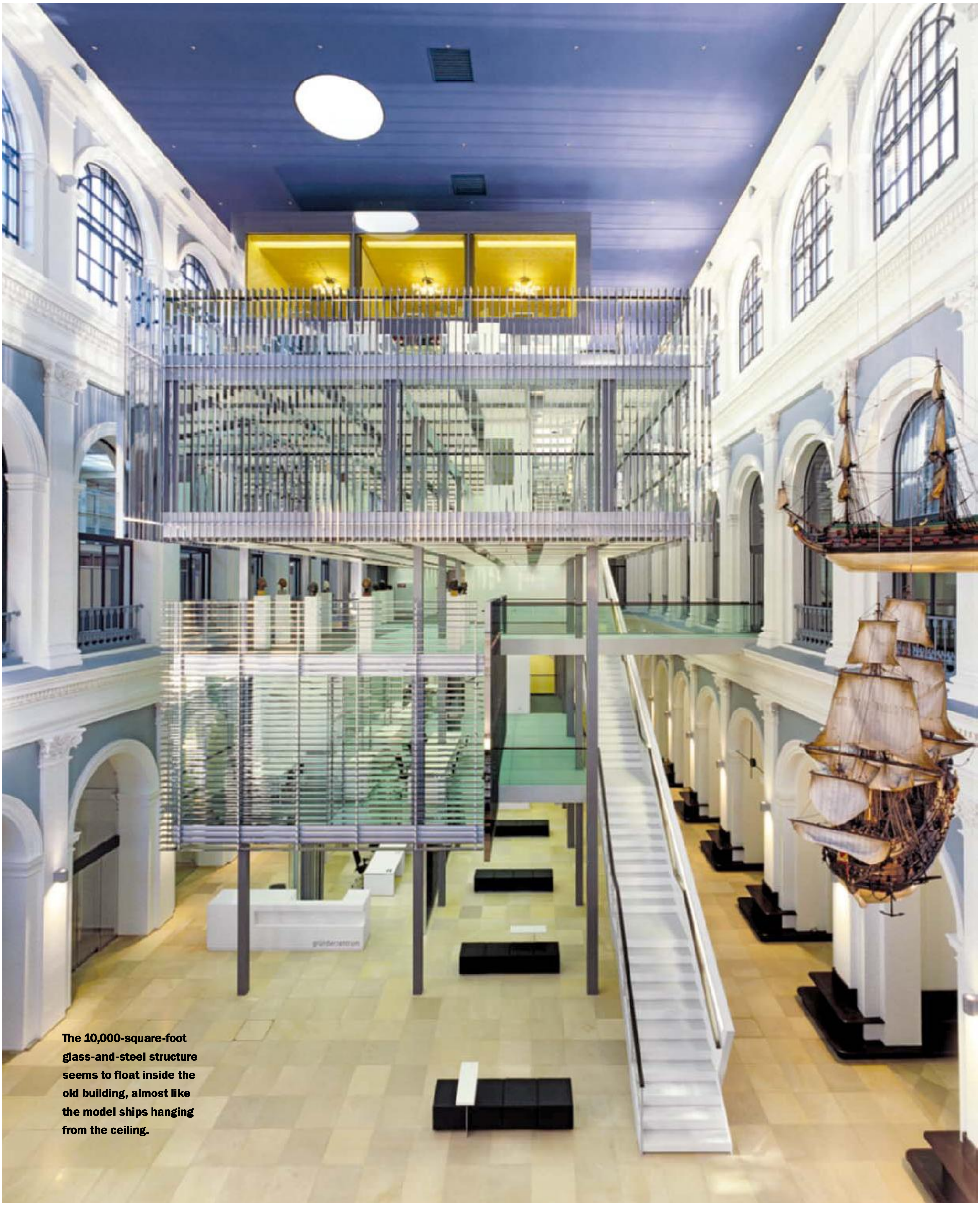
Also in its full glory is the interior ironwork, especially as light streams in through the central lantern and surrounding halo—a ring of skylights that had been covered for more than a century. While letting in the rays, the architects redesigned this band of glazing with acoustic adjustments and retractable black-out shades, and modified the lantern subtly to allow for air outtake vents. Retaining the flexibility and impromptu spirit of the original performance venue, the new seating and stage are reconfigurable. The management can entirely or partially remove the bleacherlike palettes of seats (to on-site storage) and set up a theater-in-the-round, a thrust stage, or myriad other options. A 9,600-square-foot mezzanine, a simple, permanent ring, now brings the rotunda's capacity to 3,000 standing or 1,700 sitting.

With the reborn Roundhouse already deeply embedded in its larger community, the youth center sparks with activity, engaging its participants in creative exchange with main-stage players and processes. Though Norman purchased the building himself and later seeded its endowment, he was determined that private donors, large and small, become directly involved in the creation and continued life of the venue. So 60 percent of the funding, an unusually high proportion, came from the private sector, with 40 percent from public sources: the Heritage Lottery Fund and Arts Council.

Mindful not to over-restore the Roundhouse, the architects left its bricks, for example, with timeworn unevenness and patches of discoloration. "There's nothing precious about the details," McAslan maintains. "It should always feel like a found venue and a joy to reuse." The approach was so lighthanded that some critics have found the architectural statement too modest. But there's a certain beauty in the familiar set right. "It's really the same place, but now quietly it all works—though people might not notice the particular changes," he says, acknowledging that the renovation's success lies partly in "its appearance of not trying very hard (while actually it was quite hard to solve)."

Far from the city's glamorous mainstream theater district, the Roundhouse remains a place where performers can kick up dirt, splash water, or swing from the catwalks. For all the sophisticated refitting, it's still, as McAslan project leader Mark Cannata puts it, "a maverick space." ■

Sources, see page 138. To rate this project, go to architecturalrecord.com/projects/.



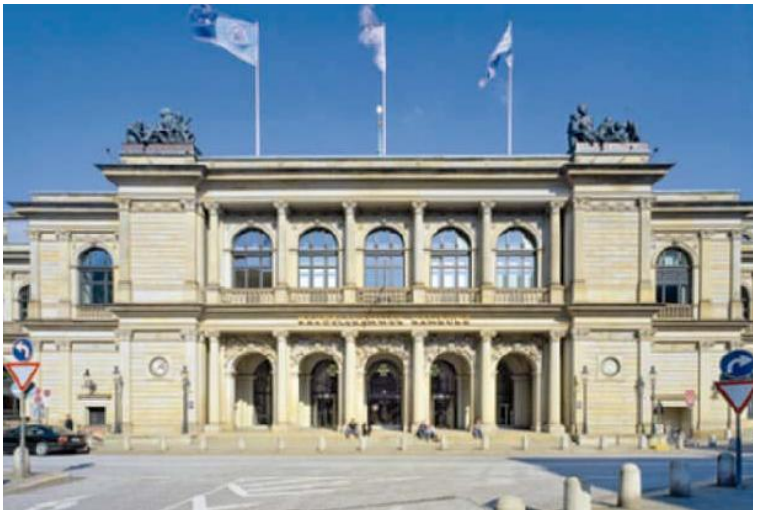
The 10,000-square-foot glass-and-steel structure seems to float inside the old building, almost like the model ships hanging from the ceiling.

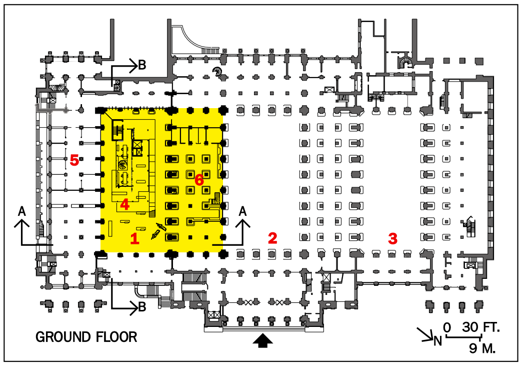
Behnisch Architekten inserted the gleaming HAUS IM HAUS within the neo-Renaissance fabric of Hamburg's Chamber of Commerce

By Farhad Heydari

Hidden inside Hamburg's colonnaded, Renaissance Revival Handelskammer, or Chamber of Commerce, a new glass-and-steel pavilion brings some modern swagger to halls that have long embodied the city's civic ethos and its centuries-old provenance as a Hanseatic trading center. Dating from 1841 and situated adjacent to an imposing Rathaus (city hall), the Chamber of Commerce is where the city's power players orchestrated Hamburg's modern-day rise to global shipping and maritime prominence. Yet officials of the forward-thinking organization realized they needed to update their otherwise staid commercial image. So when the city's stock market went electronic and moved out of one of the building's three commodious halls at the end of 2002, they decided to bring in new energy by adding a start-up-business assistance center, a business club, meeting rooms, and an area to display historic artifacts from the oldest commercial library in the world, which is housed in the building's recesses.

After holding a competition in 2003 that drew 600 entries, the Chamber of Commerce selected Stuttgart-based Behnisch Architekten to design a six-story insertion for the old building. Completed in March, the bold $8.2 million, reflective steel-and-glass project—called Haus im Haus (House-Within-a-House)—provides a jolt of Modern elegance that enlivens and casts a new light on its historic setting.





The Haus im Haus occupies one hall (plan, left) of Hamburg's 1841 Chamber of Commerce building (above).

1. *Hall 1*
2. *Hall 2*
3. *Hall 3*
4. *Start-up assistance*
5. *Welcome center*
6. *Insurance stock exchange*

The architects designed the new structure as a series of stacked boxes defined by varying amounts of glass-and-steel enclosure. The ground floor, which is mostly open to the old hall around it, houses a welcome area and the start-up assistance center outfitted with bespoke furnishings, including painted-wood sitting platforms designed by Behnisch with adjustable-height work surfaces. Larger expanses of horizontally or vertically banded glass and metal enclose more space for the start-up center on the second floor. The third floor is home to a multipurpose room and an exhibition area, which continues on the fourth floor. A handsome restaurant occupies the fifth floor, while the business club and a bar-cum-lounge speckled with clubby English furnishings—including studded leather sofas, cream-colored shag rugs, antique chandeliers, and old masters paintings—are found on the sixth floor. A rooftop terrace atop a neighboring hall will enjoy views of the city's spires when it is completed in the future.

It wasn't easy, though, to get all this done, says the firm's principal, Stefan Behnisch. Many of the challenges were technical. "For example, we had to bring in building material through small openings in the old structure, which meant prefabricating as much as possible," says Behnisch. The architects also struggled with determining the condition of the existing

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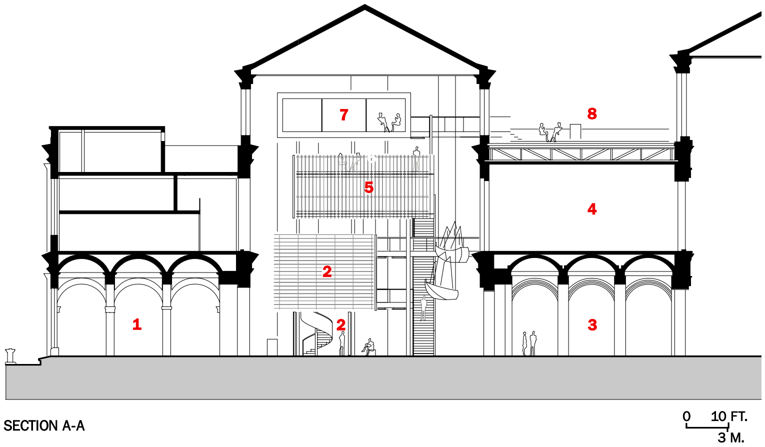
Farhad Heydari is an American journalist based in Hamburg.

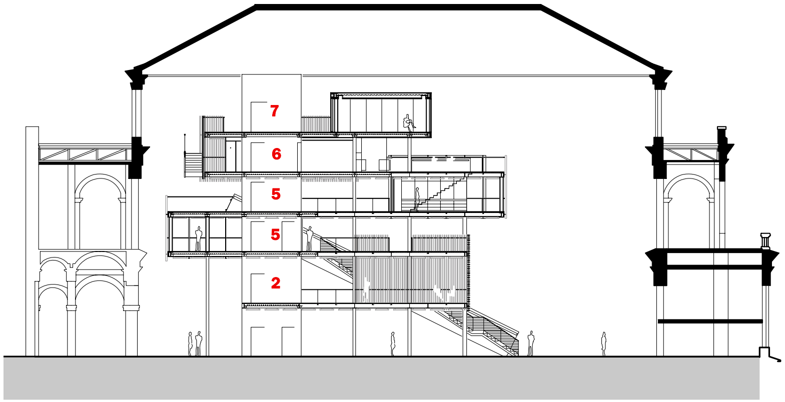
Project: *Haus im Haus, Hamburg*
Architect: *Behnisch Architekten—Stefan Behnisch, principal; Martin Haas, partner in charge; Katja Knaus, project architect; Daniel Neves-Pimenta, Ohh Hie Gown, design team*
Engineers: *Wetzel & v. Seht (structural); TPlan (m/e/p)*
Consultants: *Nimbus Design (LEDs); Ulrike Brandi Licht (lighting)*

PHOTOGRAPHY: © ROLAND HALBE

1. *Welcome center*
2. *Start-up assistance*
3. *Insurance stock exchange*
4. *Multipurpose*
5. *Exhibition*
6. *Restaurant*
7. *Bar/club/lounge*
8. *Roof terrace*

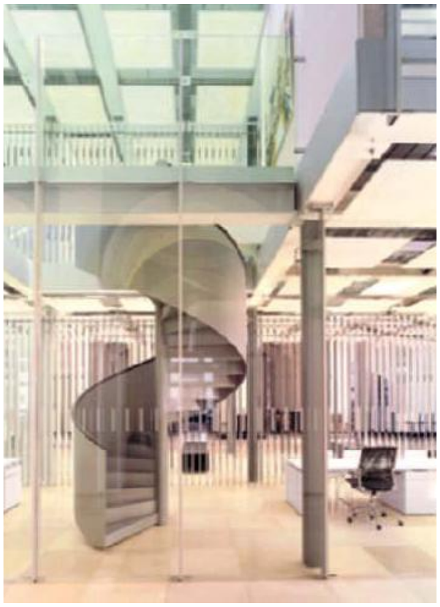


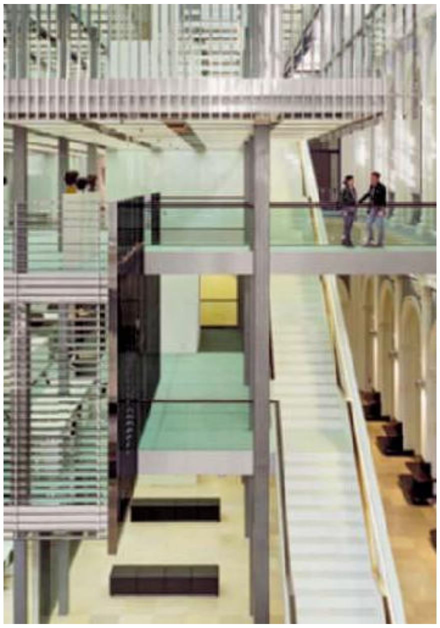
SECTION A-A

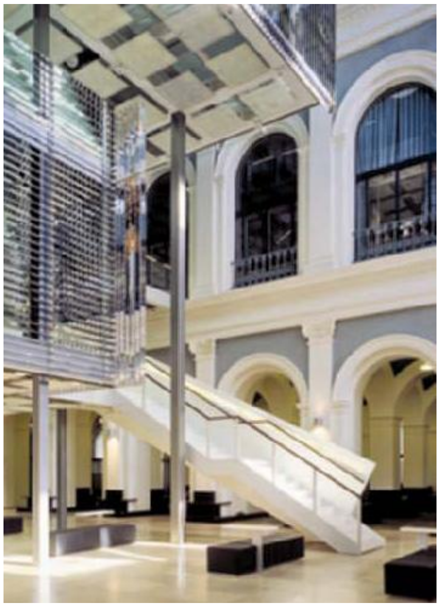


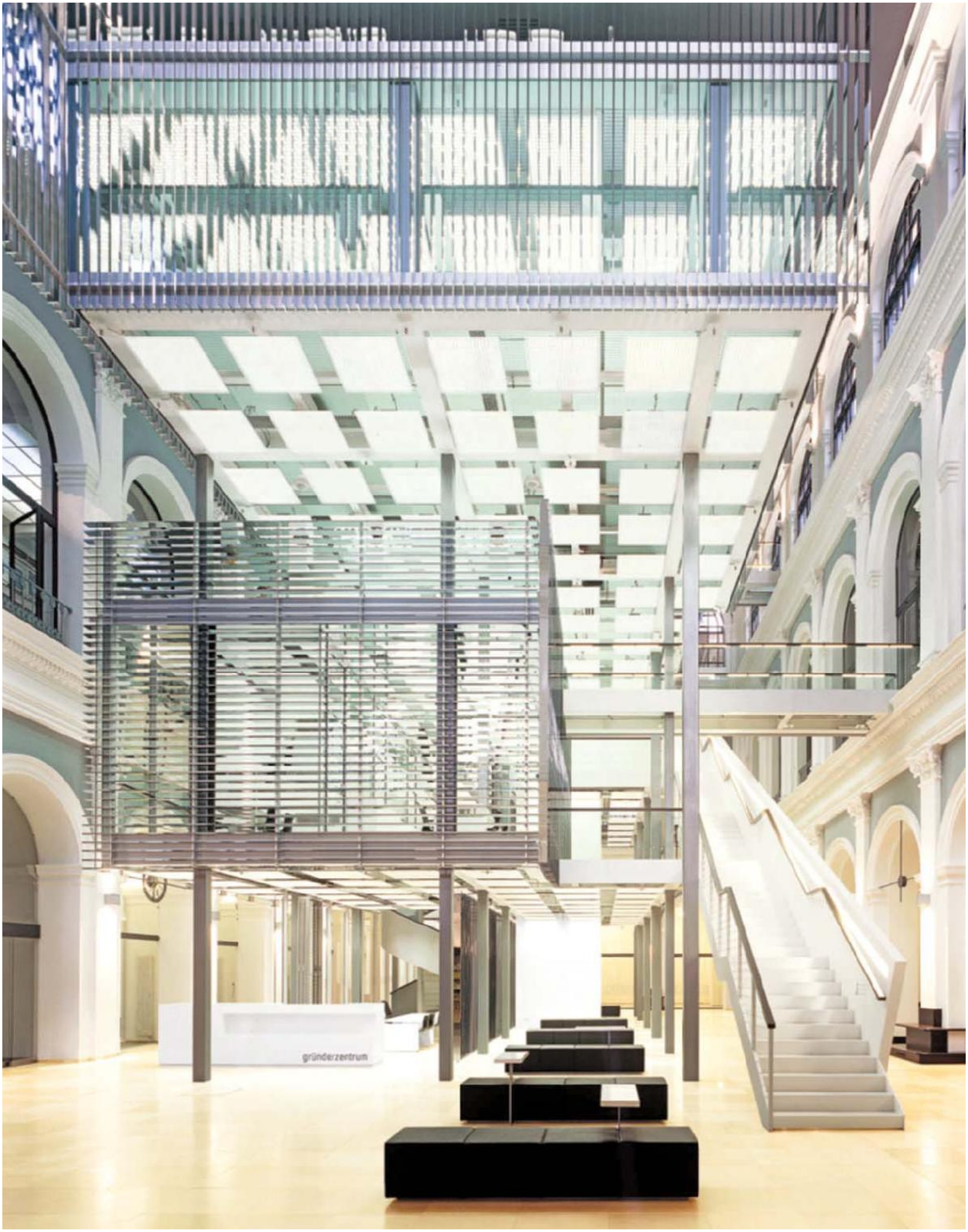
SECTION B-B

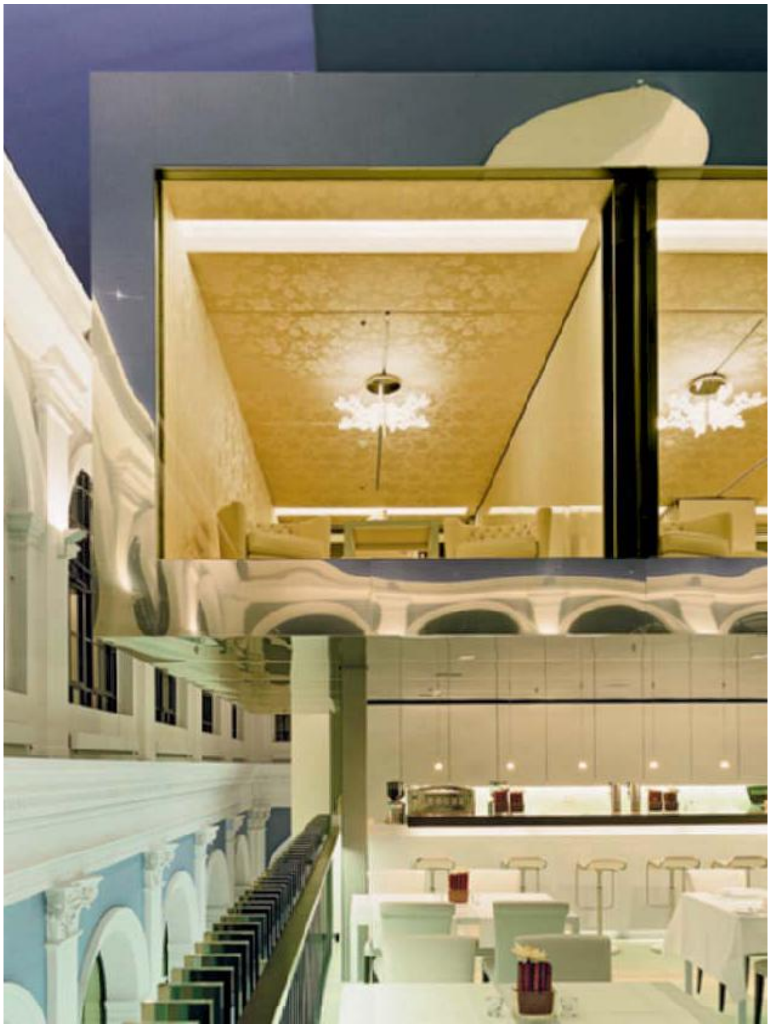
Behnisch originally envisioned the new structure as an exercise in transparency. But fire and other regulations made that difficult, so the firm combined clear and reflective materials, which give the surfaces a sense of "nonmateriality" that contrasts with the heavier Renaissance-style building all around it (right and above right). A start-up assistance center occupies space on the first and second floors (top right and opposite), where sitting platforms have adjustable-height work surfaces.



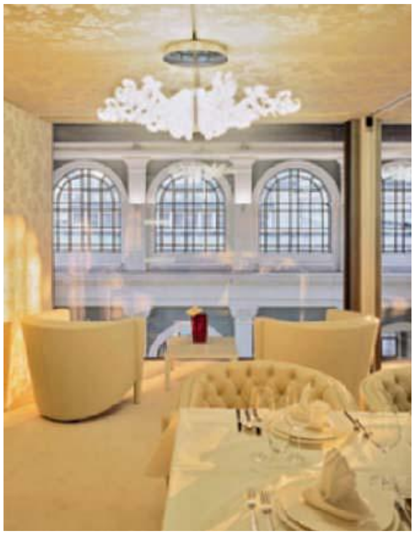




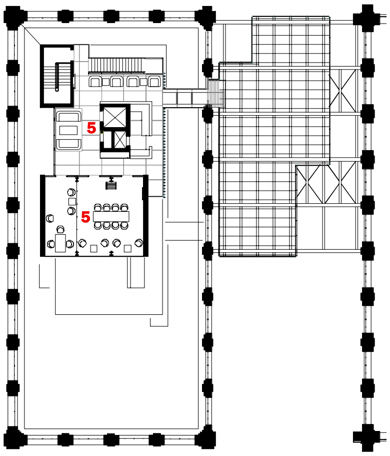

gründerzentrum



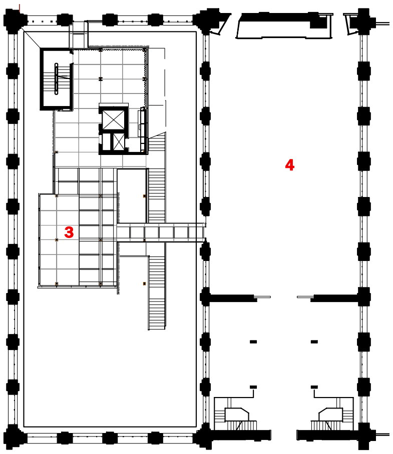
A restaurant (above) sits on the fifth floor, open to the grand hall and close to the old building's ornamented surfaces and cornflower-blue ceiling. Directly above the restaurant, a club/bar/lounge (right) offers a champagne-hued, cushy setting for members to entertain their business associates and friends.



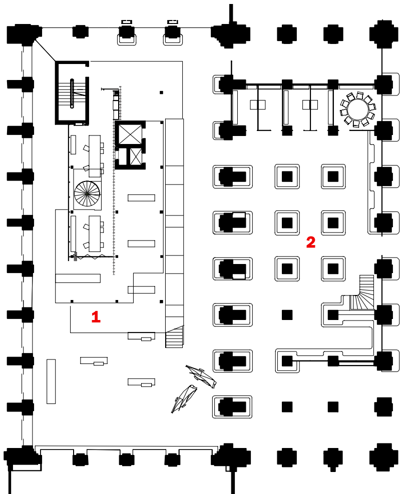
1. *Start-up assistance*
2. *Insurance stock exchange*
3. *Exhibition*
4. *Multipurpose*
5. *Bar/club/lounge*



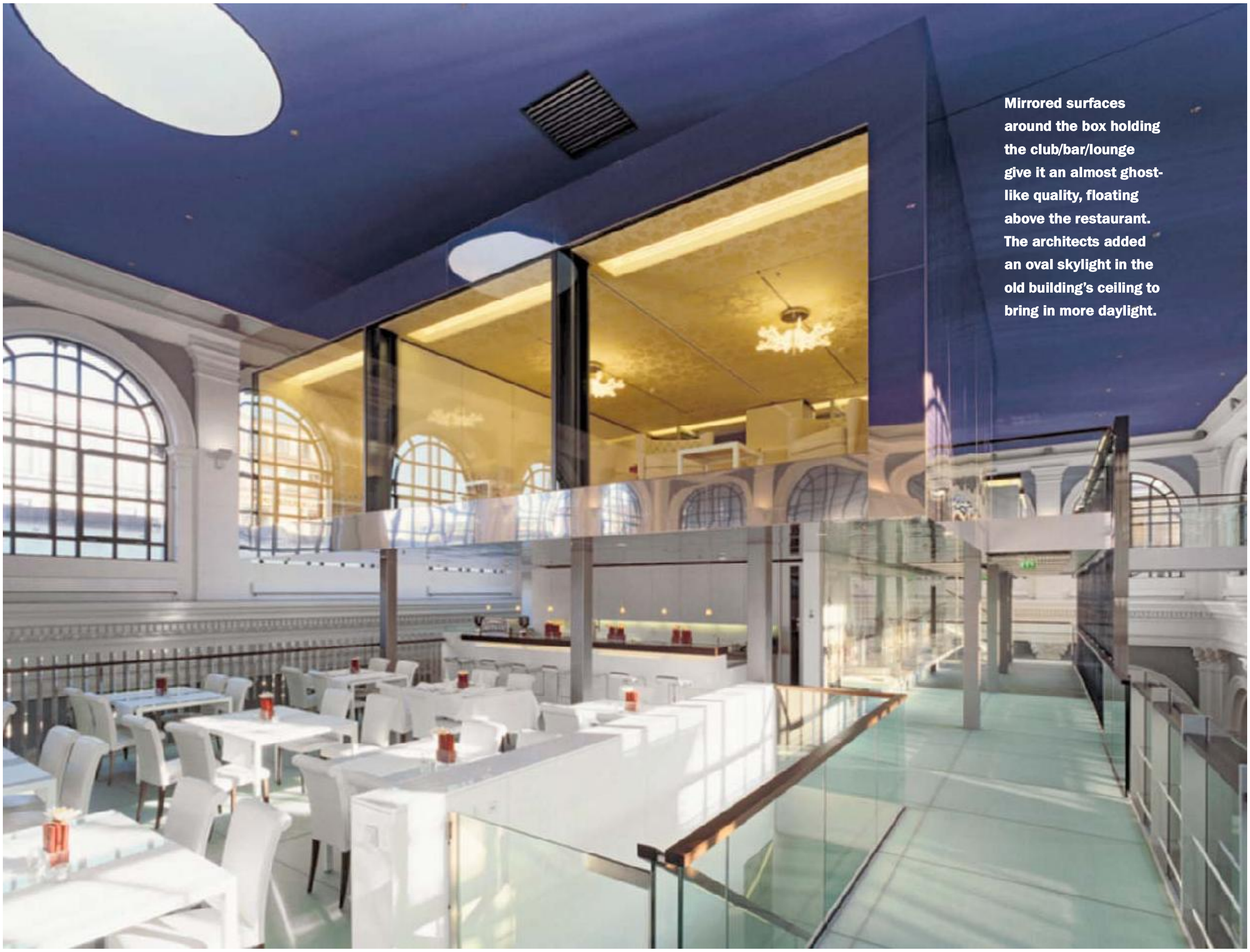
SIXTH FLOOR



THIRD FLOOR



GROUND FLOOR



Mirrored surfaces around the box holding the club/bar/lounge give it an almost ghost-like quality, floating above the restaurant. The architects added an oval skylight in the old building's ceiling to bring in more daylight.

building's foundations, which were built on oak piles. "We had to open up these spaces, examine them, and then drive the foundations for the new building through the basement of the existing building," Behnisch explains. And because big equipment couldn't be brought into the building, work had to be done more or less manually or with small equipment.

In terms of materials, too, Behnisch and his team confronted major dilemmas. Their initial plans called for an airy, transparent edifice fashioned from a motley of components, including high-tech plastics, chrome-covered aluminum panels, and tempered glass—materials that would be foils for the Renaissance-style setting. But fire and safety regulations pushed the architects in a different direction, and reflectivity usurped transparency as the overriding theme. Instead of being see-through, the new materials attain a sense of "nonmateriality" thanks to mirrored surfaces.

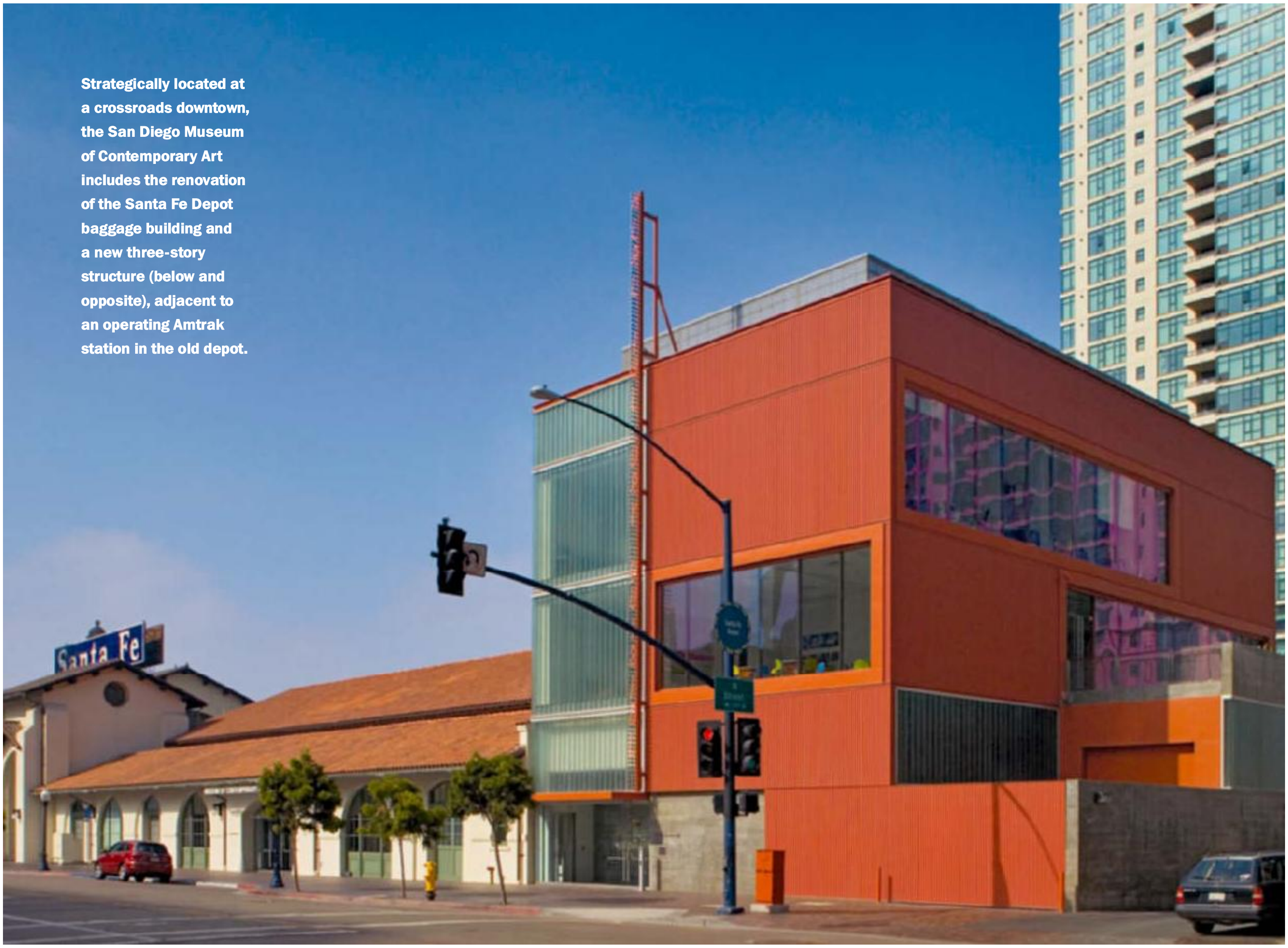
The architects also lost a battle over egress when the authorities insisted on a separate, enclosed fire stair. Initially, the Behnisch team thought people "could escape through the three bridges that connect the new structure to the existing structure," says Martin Haas, the firm's partner in charge of the project. Haas and his colleagues eventually tucked the stair into a concrete block at the back (south) of the new structure.

To give the interior spaces an ethereal quality, the team worked with a lighting manufacturer to develop a series of unusual LED panels (see page 184). Measuring 3 feet by 3 feet, the rectangular panels are ceiling-mounted and programmed by computer to mimic daylight by changing intensity. "The idea was to incorporate the quality of daylight—which captures the movement of clouds and changes in hues—instead of relying just on artificial light, which is strict and unforgiving," says Haas.

Set on 18 steel supports filled with concrete, the new structure rises dramatically 64 feet to nearly touch the textured acoustic cornflower-blue ceiling of the existing building, which was restored. Rules prohibited alterations to the building's exterior, but the architects were allowed to add a large oval skylight to the ceiling to bring in daylight.

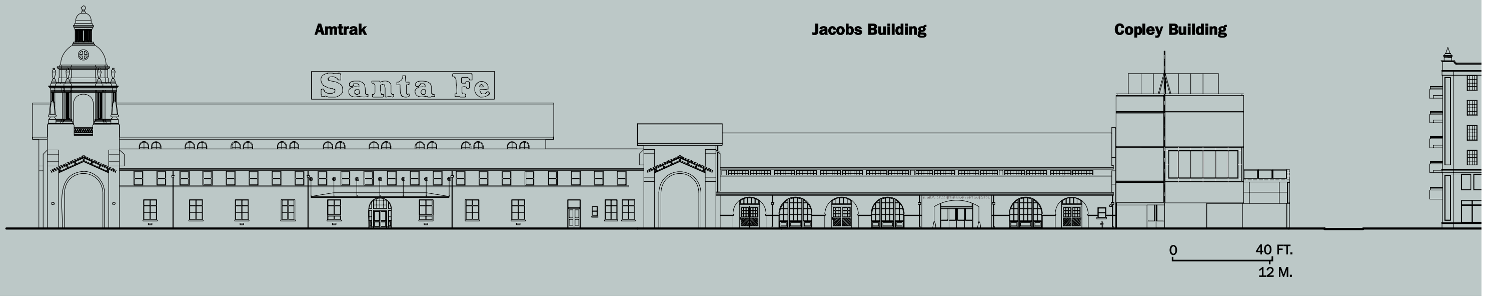
"There were a lot of people quite skeptical about this endeavor, saying how can you build a house into this beautiful hall," says Hans-Jörg Schmidt-Trenz, the Chamber of Commerce's chief executive officer. "But all these skeptical voices who thought it could never work are silenced the moment they walk in and see this building." ■

Sources, see page 138. To rate this project, go to architecturalrecord.com/projects/.



Strategically located at a crossroads downtown, the San Diego Museum of Contemporary Art includes the renovation of the Santa Fe Depot baggage building and a new three-story structure (below and opposite), adjacent to an operating Amtrak station in the old depot.

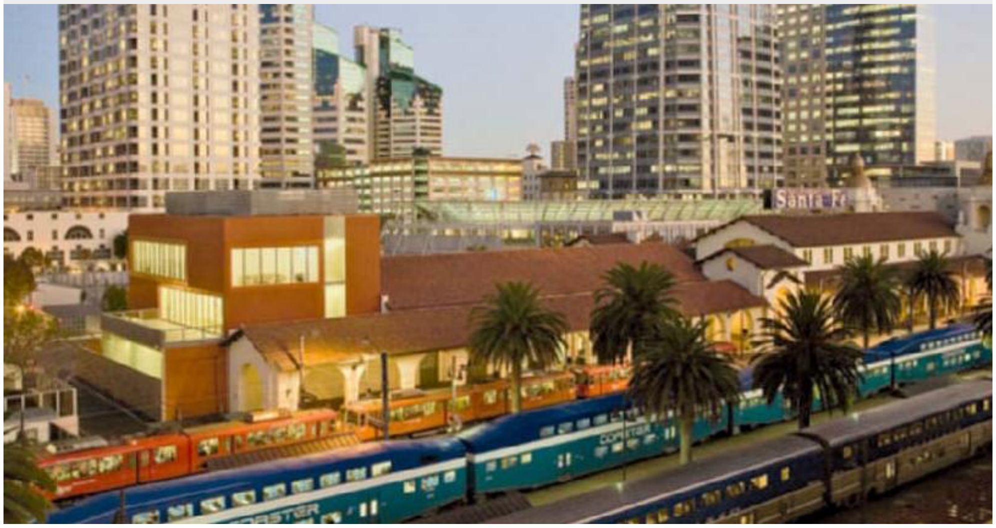
The Amtrak station, in the Santa Fe Depot; the Jacobs Building, a converted baggage building; and the Copley addition, viewed from the south (far left). A construction photo shows the depot's steel frame going up atop the arched concourse (near left).


Amtrak
Jacobs Building
Copley Building
Santa Fe
0
40 FT.
12 M.

Gluckman Mayner Architects takes cues from railroad life in the caboose-red addition and renovated baggage building of the MUSEUM OF CONTEMPORARY ART SAN DIEGO

By Ann Jarmusch

The Museum of Contemporary Art San Diego, based in a converted, much-expanded landmark, the Ellen Scripps house, designed by Irving Gill in 1915 in idyllic La Jolla, may be as well known for its stunning, oceanside setting as for its bold, nationally acclaimed exhibitions. With the opening of expanded satellite galleries in a historic, former railway baggage building in downtown San Diego last January, the museum became an urban magnet, with its opening and early attendance exceeding projections.



The Joan and Irwin Jacobs Building, the renovated, low-slung, long-shuttered former baggage building, adjoins the city's beloved, more elaborate Santa Fe Depot, which faces Broadway near San Diego Bay. Both buildings, designed by Bakewell & Brown of San Francisco in the Mission-Spanish Revival style, opened in time for San Diego's 1915–1916 Panama-California Exposition; the depot has remained in continuous use since then.

Still filled with natural light that enters through clerestory and huge arched windows, the former baggage building stands between active train tracks to the west and busy Kettner Boulevard to the east. It first captured public and redevelopment authorities' attention a dozen years ago, when the museum's former chief curator used its vast spaces, supported by an exposed, steel structure unusual for its date, to stellar effect for several temporary installations.

Several years later, the museum was selected by the city's downtown redevelopment agency to restore and renovate the building for exhibition space. The museum plan included a controversial move that museum officials said was a deal breaker: To reserve the maximum area possible for art and new media installations, the museum needed to demolish an adjacent nonhistoric railway building and replace it with a contemporary, 13,680-square-foot addition—the new David C. Copley Building—to house offices, education rooms, meeting space, and Amtrak storage.

Hugh M. Davies, the museum's director, hired what he called his "dream team" for this two-part project: Milford Wayne Donaldson, FAIA, a San Diego–based preservation architect (who left the project after he was named California's state historic preservation officer); and Richard Gluckman, FAIA, of Gluckman Mayner Architects of New York. Donaldson's successor firm, Heritage Architecture & Planning, restored the baggage building's exterior and worked with Gluckman to keep the interior renovations, including a mandatory seismic retrofit, to a minimum.

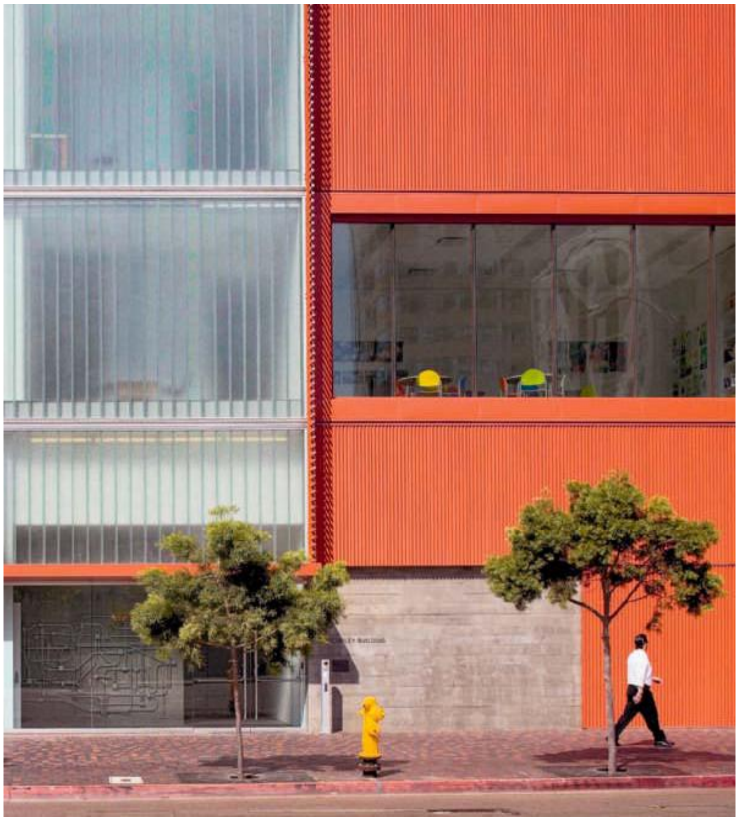
As with other historic buildings Gluckman has transformed, such as New York City's Dia Center and Pittsburgh's Andy Warhol Museum, he kept the vast interior spaces of the Jacobs as open as possible to maximize opportunities for installation artists. The height of the largest gallery, comparable to the size of a basketball court, peaks at about 38 feet; the exception is a small, jewel-box of a gallery with low ceilings and climate control.

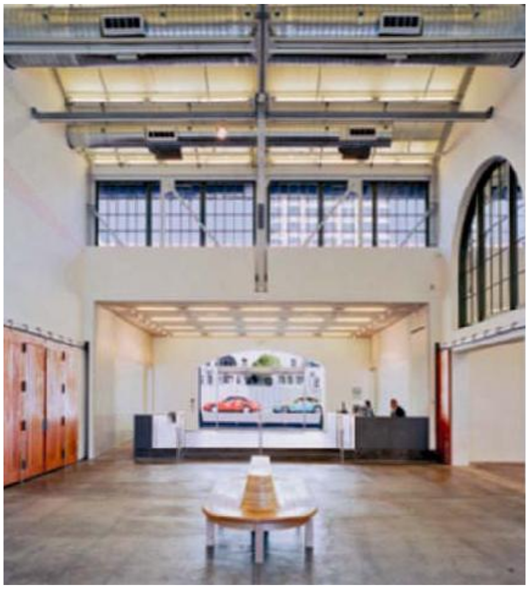
Elegant glass storefronts mark the museum entrance—without detracting from the historic facade—and the trackside exit to the west

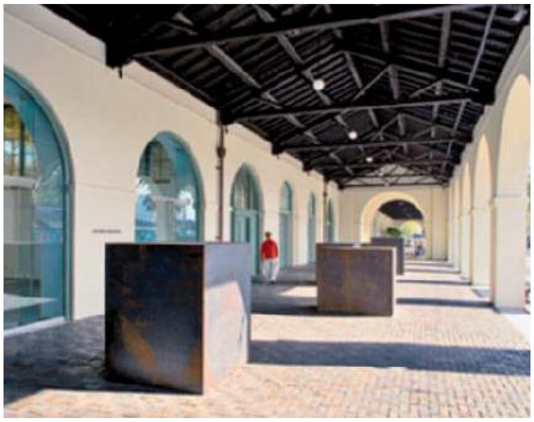
Project: *Museum of Contemporary Art San Diego, Jacobs Building and Copley Building, San Diego*
Architect: *Gluckman Mayner Architects—Richard Gluckman, FAIA, principal in charge; Robert White, project manager; Jimmy Counts, project architect; Benjamin Checkwitch, Robert Edmonds, Dean Young, Srdjan Jovanovic Weiss, design team*
Associate architect: *Heritage Architecture and Planning (formerly Architect Milford Wayne Donaldson)*
Engineer: *Arup (m/e/p, structural); Lintvedt, McColl and Associates (civil)*

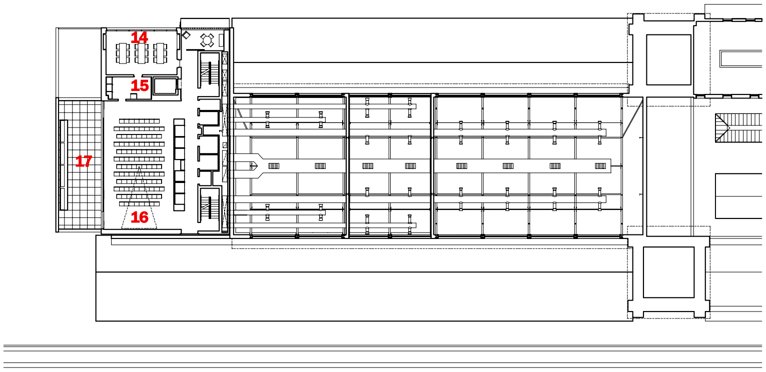
Ann Jarmusch is architecture critic for The San Diego Union-Tribune.

PHOTOGRAPHY: © HEWITT GARRISON (OPPOSITE, TOP); COURTESY GLUCKMAN MAYNER (OPPOSITE, BOTTOM); © DAVID HEALD (THIS PAGE)

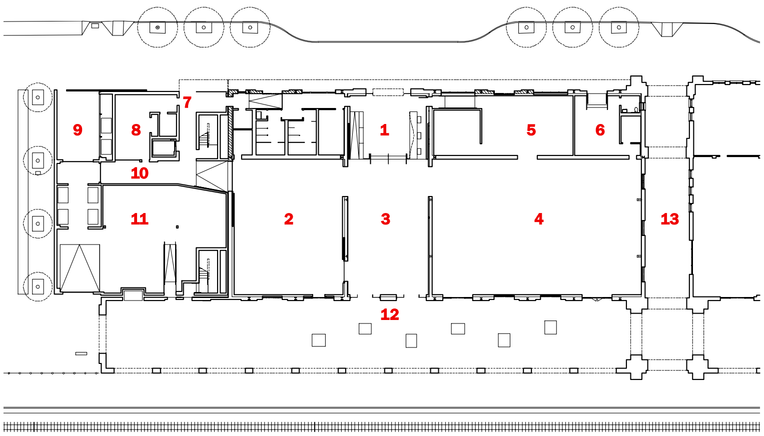








SECOND FLOOR / CLERESTORY LEVEL COPLEY BUILDING



FIRST FLOOR / JACOBS BUILDING AND COPLEY BUILDING

Jacobs Building

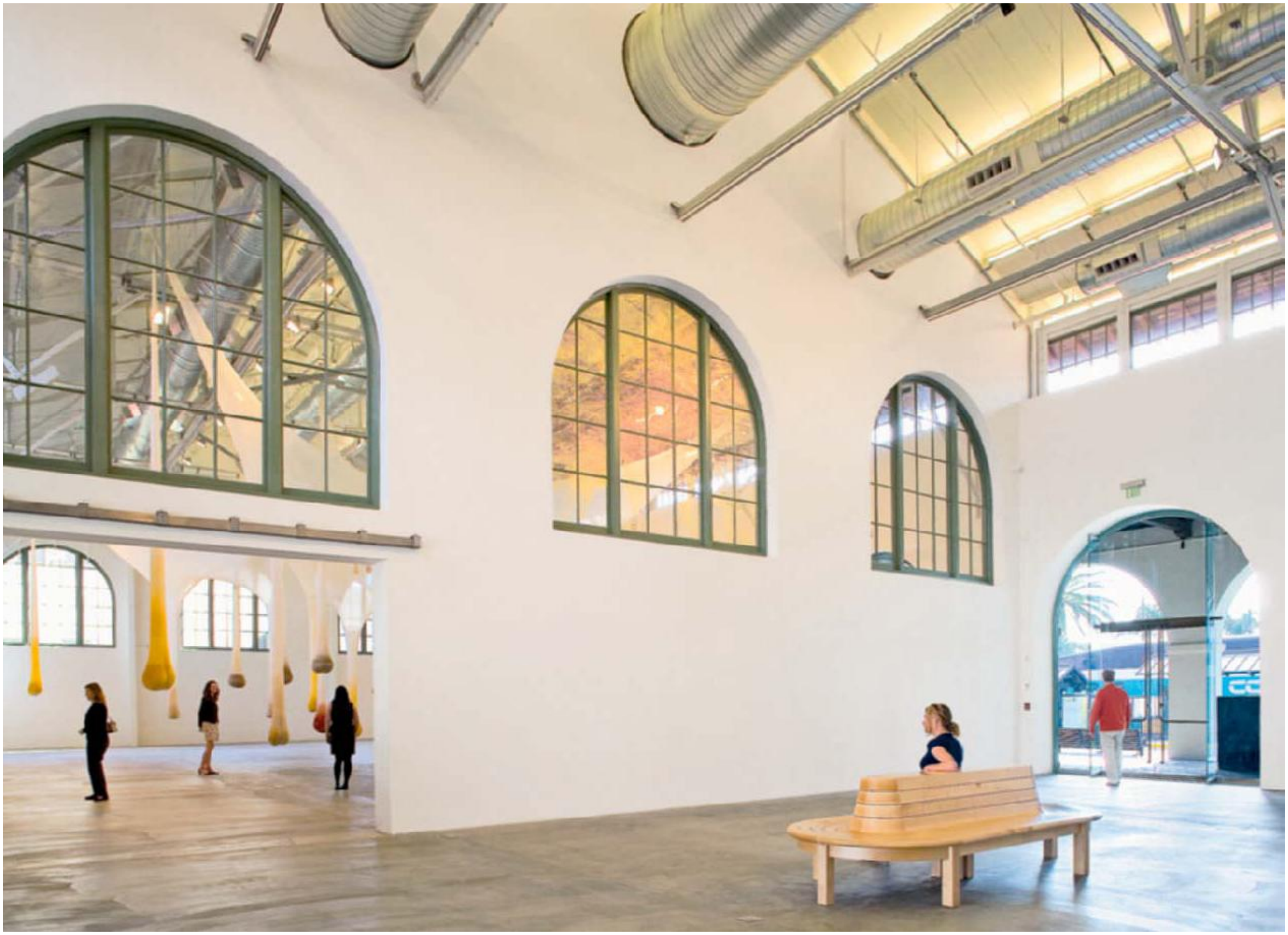
1. *Entry*
2. *Foster gallery*
3. *Strauss gallery*
4. *Farrell gallery*
5. *Wortz gallery*
6. *Caplan artist-in-residence studio*

Copley Building

7. *Entry*
8. *Art handling*
9. *Receiving yard*
10. *Service hall*
11. *Amtrak*
12. *Figi family concourse*
13. *Breezeway*
14. *Betlach Education room*
15. *Staging*
16. *Berglund room*
17. *Woods terrace*

The terra-cotta-colored steel panels of the new addition alternate with channel glass and clear glass windows (top left). The renovated galleries of the baggage facility, now the Jacobs Building (top right and opposite), open onto Kettner Boulevard. Currently, Ernesto Neto's work *Untitled* is on display. Richard Serra's *Santa Fe Depot*, a series of steel blocks, runs along the concourse facing the train tracks (above).

PHOTOGRAPHY: © HEWITT GARRISON (TOP LEFT AND BOTTOM RIGHT); DAVID HEALD (TOP RIGHT AND OPPOSITE)



onto a brick-paved arcade, where Richard Serra placed his commissioned sculpture, a series of steel blocks that respond to the arcade's rhythm and proportions. Inside, three adjacent galleries, totaling nearly 14,000 square feet, including one just under 4,700 square feet, flow into one another. They can be closed off by huge, rolling wood doors with refined hardware that echo old railway buildings, but with no hint of the rustic vernacular.

Without fail, the architects respected the handsome historic building and the artists who experiment with it by retaining—celebrating, actually, in a city that has demolished most of its historic warehouses—the drama and flexibility of the original open, high-ceilinged spaces and durable concrete floors. A narrow central gallery, which doubles (as it once did for baggage handlers) as a throughway from street to tracks, is now glazed at both ends, offering views of the street and train tracks outside. One end serves as the museum's clean, modern new entrance, an intentional contrast to the historic facade. The other end is for exiting only, an inconvenient nod to security that requires visitors to walk around the long baggage building to reenter.

Gluckman, with Donaldson's backing, was bolder in designing its Modernist companion. This three-story structure almost flaunts its railroad setting, but playfully, via terra-cotta-colored, corrugated-steel panels (proposed initially to be painted caboose red). The panels alternate with iridescent-green channel glass and clear glass windows on a concrete base.

The juxtaposition of old and new, while required by preservation standards, stirred some public criticism when the concept was first presented. But now that it's a reality, some former protesters can see that Gluckman carefully designed the new building in relation to the scale, fenestration, and massing of its historic railway neighbors to the south, and a prominent old warehouse that's been converted to a restaurant and offices to the north. With the possible exception of the terra-cotta-colored siding (it matches the baggage building's newly cleaned, antique tile roof), this utilitarian box defers to the romantic grandeur of the historic landmarks nearby. (As a joyously blatant contrasting gesture, the artist Jenny Holzer, who frequently collaborates with Gluckman, designed a vertical "sign" that hangs on the facade, its provocative inscriptions constantly rolling in English and Spanish, and legible day and night.)

Best of all, for those who appreciate architecture and engineering as conceptual arts, Gluckman added intellectual value to this project: The new Copley Building inverts one of the key features of the former baggage building—its internally exposed steel structure—by wearing its structural steel and glass outside, on the street. ■

Sources, see page 138. To rate this project, go to architecturalrecord.com/projects/.

SOURCES/RESOURCES PROJECTS

EGLISE SAINT-PIERRE DE FIRMINY

Loire Valley, France

(page 108)

Sources

Altar: *Ciments Lafarge*

Surface pulverization: *Labo-France*

Flashing: *Soprema*

Glazing: *Saint-Gobain*

PAUL RUDOLPH PENTHOUSE

New York

(page 116)

Sources

Exterior steel finish: *Tnemec Paint*

Roofing: *Kemperol Liquid Applied Waterproofing System*

Hardware: *CR Lawrence (hinges); Industrial Expressions (pulls); Blum, Sugatsune (cabinet hardware)*

Cabinets and custom woodwork: *Joe Ginsberg*

Special surfacing: *Surell*

Flooring: *Ivan James (resilient); Tai Pin (carpets)*

Upholstery: *H&A Upholstery*

Custom furniture: *Della Valle*

Lighting: *Modulightor*

ROUNDHOUSE

London

(page 122)

Sources

Curtain wall: *EAG Aluminum (metal); Schuco (glass)*

Concrete: *Knight Build (fair faced)*

Roofing: *Flachdach Rhepanol FK membrane roofing (elastomeric)*

Windows: *Fendor Hansen (glazed steel frame)*

Doors: *Fendor Hansen (entrances, metal); Geze (sliding); IAC Industrial Acoustics (special)*

Acoustical ceilings: *Armstrong Geneva*

Paints and stains: *Dulux*

Paneling: *Decousitc Grooved MDF*

Floor and wall tile: *Domus Tiles*

Lighting: *Iguzzini; Concord; Erco; Philips*

Conveyance: *Kone (passenger elevator); Lodige (goods lift); Stanagh (dumbwaiter)*

HAUS IM HAUS

Hamburg, Germany

(page 128)

Sources

Structural system: *Baumann Metallbau GmbH*

Exterior cladding: *Baumann Metallbau GmbH (metal/glass curtain wall); Theo Urbach Bauunternehmung (concrete)*

Roofing: *Baumann Metallbau GmbH*

Glazing: *Baumann Metallbau GmbH (glass, skylights, insulated panel, plastic)*

Doors: *Baumann Metallbau GmbH (entrances, sliding); Fa. Holzschuh & Böhringer (sliding); Fa. Schörghuber (fire-control, security grilles)*

Hardware: *Dorma GmbH (closers); FSB (pulls); Effeff (security devices)*

Acoustical ceilings: *Sto Acoustics*

Demountable partitions: *Dorma Hüppe GmbH*

Cabinets and custom woodwork: *Holzschuh & Böhringer; Böhm GmbH; Tischlerei Harms*

Wall coverings: *JAB Anstoetz*

Special surfacing: *Vectogram*

Floor and wall tile: *Royal Mosa; Agrob Buchtal*

Carpet: *JAB Anstoetz; Tretford*

Furnishings: *Haworth, Arper, Vitra (office); Moroso, Poltrona Frau (chairs); MDF Italian (tables)*

Upholstery: *Wade Upholstery*

Lighting: *Nimbus Design (LED lighting); Lux Lichttechnik (interior ambient); Erco (downlights, controls)*

Conveyance: *Lutz Aufzüge*

Plumbing: *Opländer*

MUSEUM OF CONTEMPORARY ART SAN DIEGO

San Diego

(page 134)

Sources

Structural system: *International Iron*

Exterior cladding: *Pilkington Profilit (glass); Fabral, Ehmcke Sheetmetal (sheet metal)*

Roofing: *Johns Manville*

Windows: *ISEC (reconstruction of historic wood windows/storefronts); Kawaneer storefront system (aluminum)*

Glazing: *PPG Solarban 60*

Doors: *Grand View Glass and Metal (entrances); Door Component (hollow metal doors and frames); Marshfield Door Systems (wood); ISEC (sliding); Architectural Millwork (custom wood); McMaster-Carr (steel roller track and hangers for custom wood doors); Architectural Alternatives (stainless-steel pulls for custom wood doors); Total Door (fire-control, security grilles); Cornell Iron Works (overhead coiling doors)*

Hardware: *Schlage (locksets); Best Access Systems (cylinders); Hafele America (sliding door hardware); Stanley Hardware (butt hinges); Rixson Specialty Door Controls (offset pivot hinges, magnetic hold-opens); LCN Closers (closers); Von Duprin (exit devices); General Electric (security devices)*

Acoustical ceilings: *Armstrong World Industries*

Suspension grid: *Armstrong (Fineline system)*

Cabinets and custom woodwork: *ISEC; Montbleau & Associates*

Paints and stains: *Frazee*

Plastic laminate: *Formica*

Special surfacing: *U.S. Architectural Products; Corian*

Bathroom tile: *Nemo; Daltile*

Resilient flooring: *Wicanders*

Furnishings: *LUCE et studio (custom office furniture); Montbleau & Associates (custom reception furniture); Knoll (lecture room chairs); Herman Miller (conference room chairs); Vitra (office chairs)*

Lighting: *Litelab, Hubbell (exhibition); Lithonia (interior ambient); Modular International (downlights); Bega/US (exterior); Lutron (controls)*

Conveyance: *Mitsubishi*

Plumbing: *Kohler (toilets); Haws (drinking fountains)*

For more information on these projects, go to Projects at **architecturalrecord.com**.

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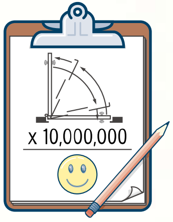

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RESTORATION

Not Only a Craft

As these projects illustrate, restoration is not just a technique; it takes research, thought, judgment, and design sensibility.

By Suzanne Stephens

Of all the activities that fall under the rubric of preservation, restoration often gets short shrift among architects. They tend to dismiss work on existing historic artifacts as mere craft, a skill that doesn't require true creativity. They won't acknowledge that architects who bring buildings back to their once-pristine condition without changing their use, adding new structures or other noticeable architectural interventions, still need to make myriad imaginative (and creative) decisions in the service of history.

Fortunately, a number of architects welcome restoration work because of the investigation and exploration involved in uncovering past construction techniques. They turn into history detectives, figuring out why an architect long ago made a particular decision on such and such material or method of building, and how it can be repeated or simulated today without depriving the original of its authenticity.

Such is the situation with Polshek Partnerships' sensitive and straightforward restoration of Louis Kahn's architecturally paradigmatic Yale University Art Gallery of 1953 in New Haven, Connecticut. For example, the architects had to replace outdated track lighting with a new type that could be threaded through the famous tetrahedral ceilings. Then they discovered the new scheme was akin to what Kahn had originally specified, and which had subsequently changed.

Beyer Blinder Belle's meticulous restoration of Temple Emanu-El, the majestic Romanesque-style synagogue that Kohn, Butler, and Stein designed in 1930 on New York's Fifth Avenue, again shows how much architects can contribute through forensic analysis. In cleaning up and restoring the landmark building, Beyer Blinder Belle collected scores of documents, plans, and descriptions by the original architects, along with construction photographs, to determine how to recover the aura of this 75-year-old structure.

For its part, Pfeiffer Partners, formerly the L.A. office of Hardy Holzman Pfeiffer Associates, working with Levin & Associates, introduced a discreet intervention while restoring the iconic Art Deco Griffith Observatory in Los Angeles. The architects brought back the luster of the observatory, designed in 1935 by Austin and Ashley, while adding a 40,000-square-foot expansion underground. (Fortunately, their restoration work was spared the ravages that swept through Griffith Park early last month.)

These efforts should encourage more architects to embrace the thoughtful preservation of architecture's legacy—without feeling their creativity is being hampered. The problems faced are still about design. ■

YALE UNIVERSITY ART GALLERY

New Haven, Connecticut

Polshek Partnership Architects sensitively brought back Louis Kahn's landmark design for the 1953 gallery that proved so significant in consolidating Kahn's stature as a major architect.

TEMPLE EMANU-EL

New York City

Beyer Blinder Belle researched and analyzed original materials in cleaning and restoring this epochal structure designed by Kohn, Butler, and Stein in 1930.

GRIFFITH OBSERVATORY

Los Angeles, California

Pfeiffer Partners and Levin & Associates have restored the Deco glamour of this tinseltown icon, designed by Austin and Ashley in 1935, while unobtrusively adding an underground addition.

To rate these projects and for additional information on restoration projects, go to Building Types Study at architecturalrecord.com/bts/.

PHOTOGRAPHY: © YALE UNIVERSITY ART GALLERY/ELIZABETH FELICELLA (TOP); BRIAN ROSE PHOTOGRAPHY (MIDDLE); TIM GRIFFITH (BOTTOM)

One: YALE UNIVERSITY ART GALLERY

New Haven, Connecticut

Polshek Partnership Architects restores utility and flexibility to Louis Kahn's venerated icon without sacrificing its "tough elegance."

By Joann Gonchar, AIA

Architect: *Polshek Partnership Architects—Duncan Hazard, AIA, partner in charge; James Polshek, FAIA, Richard Olcott, FAIA, design partners; Steven Peppas, AIA, project manager; Lloyd DesBrisay, AIA, Robert Condon, AIA, project architects; Gary Anderson, AIA, senior technical designer; Louis I. Kahn, original architect*

Client: *Yale University*

Consultants: *Robert Silman Associates (structural); Altieri Sebor Wieber (mechanical); Fisher Marantz Stone (lighting)*

Media lounge design: *Joel Sanders Architect*

General contractor: *Barr & Barr*

Size: *39,620 gross square feet*

Cost: *$44 million*

Completion date: *December 2006*

Sources

Window wall: *Wausau*

Exterior masonry: *Glen-Gery Brick*

Concrete masonry units: *Smithtown Concrete*

Doors: *Fenevations; Ellison; Algoma Hardwoods*

Pogo walls: *Staples & Charles*

Lighting: *Bega; Lighting Services; Zumtobel; Nulux; Columbia; Lightolier; Design Plan; Exterior Vert*

Lighting controls: *Lutron; Square D*

To rate this project and for additional information, go to Building Types Study at **architecturalrecord.com/bts/**.

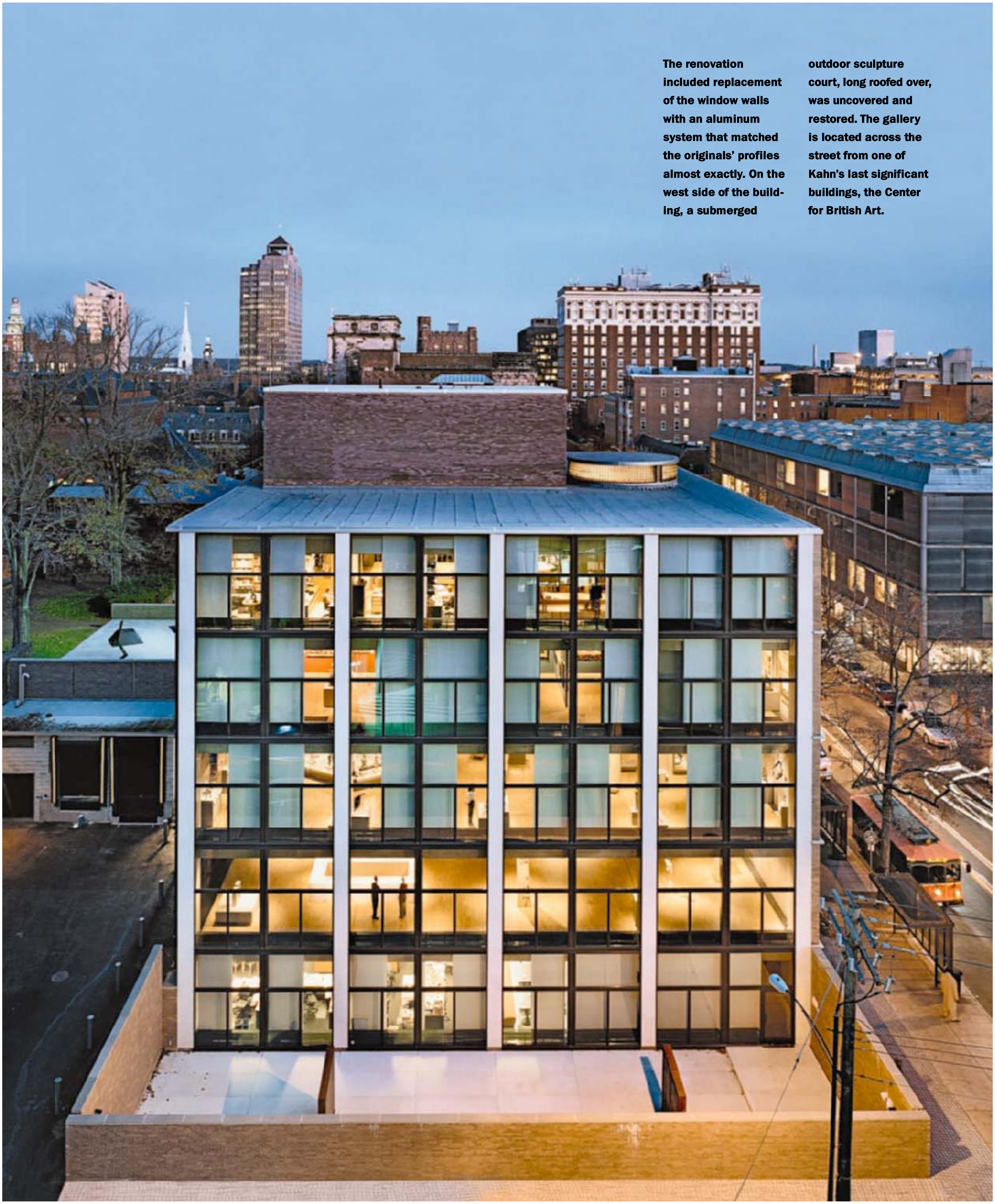
PHOTOGRAPHY: © YALE UNIVERSITY ART GALLERY/ELIZABETH FELICELLA, EXCEPT AS NOTED

When the Yale University Art Gallery first opened in 1953, this magazine included it in a roundup of new art museums [RECORD, January 1954, page 167]. Calling it a "working museum," the paragraph-long article mentioned the building's exposed-concrete construction and the presence of its unique tetrahedral ceilings. However, the piece did not anticipate that the gallery would come to be thought of as architect Louis Kahn's first significant institutional project, widely admired not only for its engineering innovations and treatment of materials, but also for its pure geometry, flexible open plan, and handling of light.

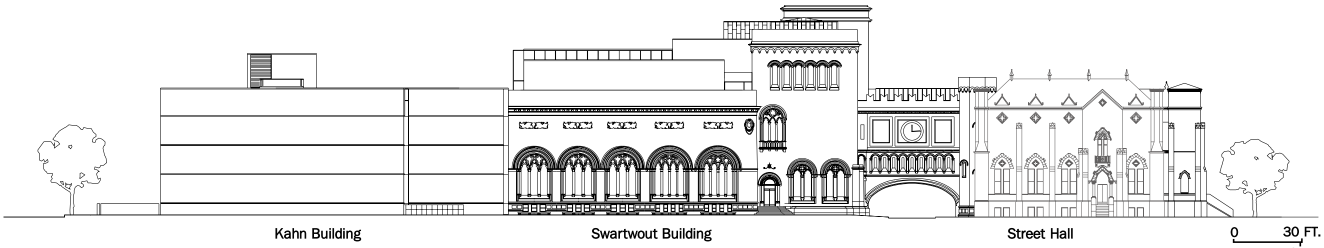
Program

Paradoxically, over the decades, as Kahn's reputation grew, the building was much changed by unsympathetic alterations. For example, fixed partitions multiplied to create space for offices, storage, classrooms, and other functions. But, as part of a $44 million renovation of the building, completed in December 2006, Polshek Partnership Architects and its consultants sought to return the exhibition spaces to their original loft-like and light-filled state. The work also included upgrading the building's infrastructure to meet current museum standards, and replacing the elegant, but thermally problematic, west and north window walls.

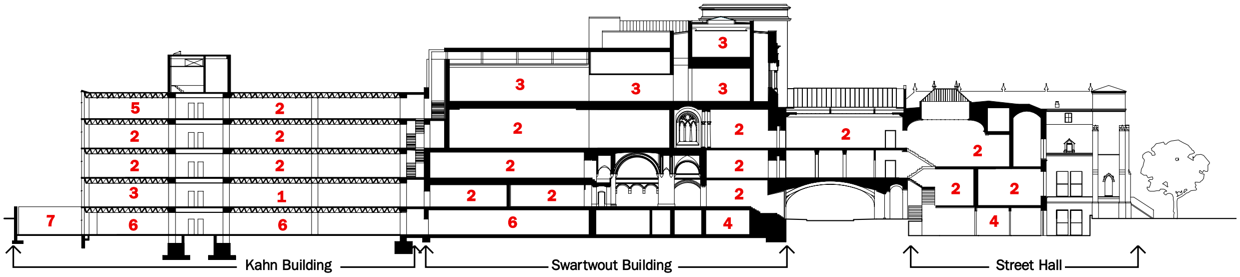
The restoration is one piece of a larger project that includes renovation of the older Swartwout and Street buildings, which are contiguous with Kahn's. The ultimate goal of this ongoing effort is to make more of the gallery's vast and eclectic collection accessible to curators, students, and the public. By installing a state-of-the-art storage and archival system and relocating many back-of-house functions off-site, eventually all three buildings will be largely dedicated to gallery space. "Encountering original



The renovation included replacement of the window walls with an aluminum system that matched the originals' profiles almost exactly. On the west side of the building, a submerged outdoor sculpture court, long roofed over, was uncovered and restored. The gallery is located across the street from one of Kahn's last significant buildings, the Center for British Art.

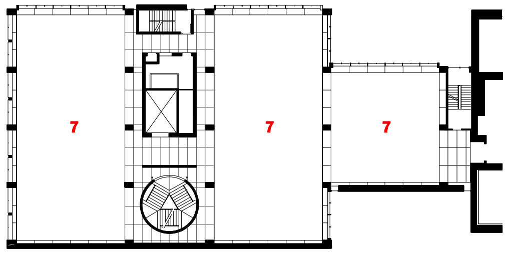


SOUTH ELEVATION

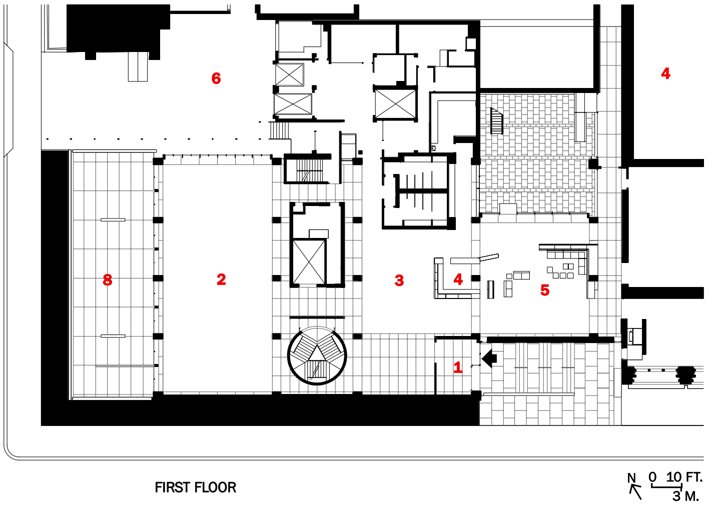


EAST-WEST SECTION

1. *Lobby*
2. *Permanent exhibits*
3. *Temporary exhibits*
4. *Education*
5. *Prints and drawings study room*
6. *Collection storage and management*
7. *Sculpture court*



TYPICAL FLOOR



FIRST FLOOR

1. *Entry vestibule*
2. *Temporary exhibits*
3. *Lobby*
4. *Information desk*
5. *Media lounge*
6. *Loading dock*
7. *Permanent exhibits*
8. *Sculpture court*

The Kahn building's typical floor has two rectangular galleries flanking a central core. A smaller gallery, square in plan, connects to the neighboring Swartwout building, which in turn connects to Street Hall. The university has plans to devote almost all of the space in these three contiguous buildings to exhibitions.

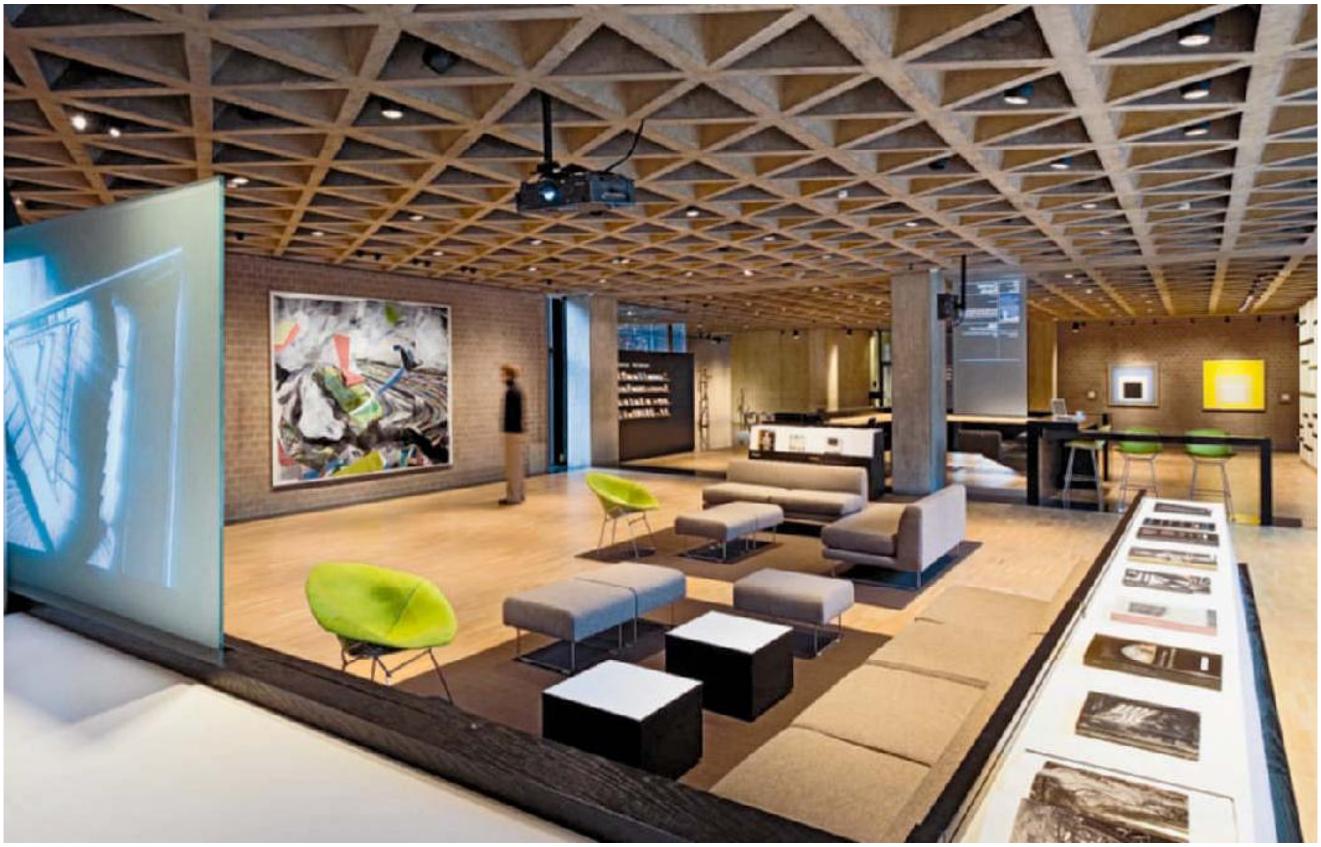
works of art is what it is all about," says Jock Reynolds, gallery director.

Solution

As RECORD noted 50 years ago, one of the building's most distinctive features is its tetrahedral ceilings, which, although muscular, seem to float overhead. These poured-in-place concrete elements integrate the mechanical systems with the building's structure and make possible expansive and flexible galleries unencumbered by columns.

Although the ducts are partially visible through the ceiling coffers, they are practically inaccessible. Therefore, the renovation designers only cleaned the ductwork above the galleries, leaving it intact. But in the building's central bay (the area that contains the iconic cylindrical stair along with the elevator and bathrooms), there is a conventional flat slab. Here they replaced the ductwork, added dampers, and modified the zoning to bring the systems to current museum-temperature and humidity-control standards.

Replacement of the gallery

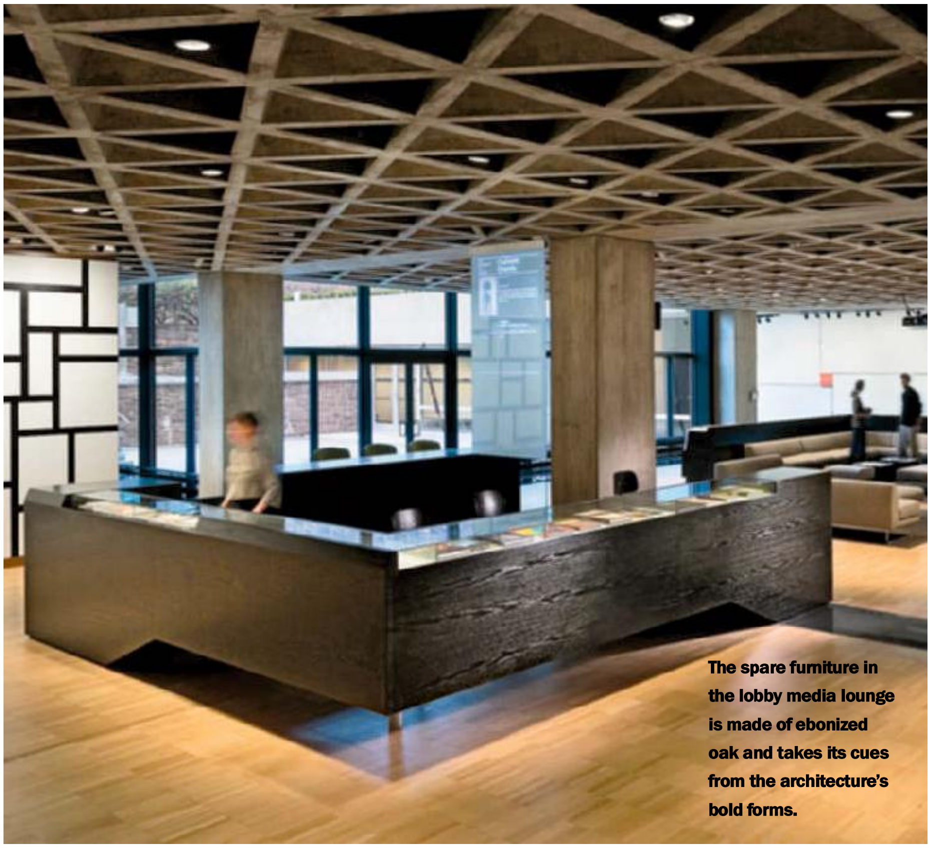


lighting was also a puzzle. The original, a precursor to modern-day track systems, had been designed by Richard Kelly and specially fabricated for the gallery by Edison Price. Despite its pedigree, the system was worn out and no longer complied with code, according to Hank Forrest, a senior associate principal for lighting consultant Fisher Marantz Stone.

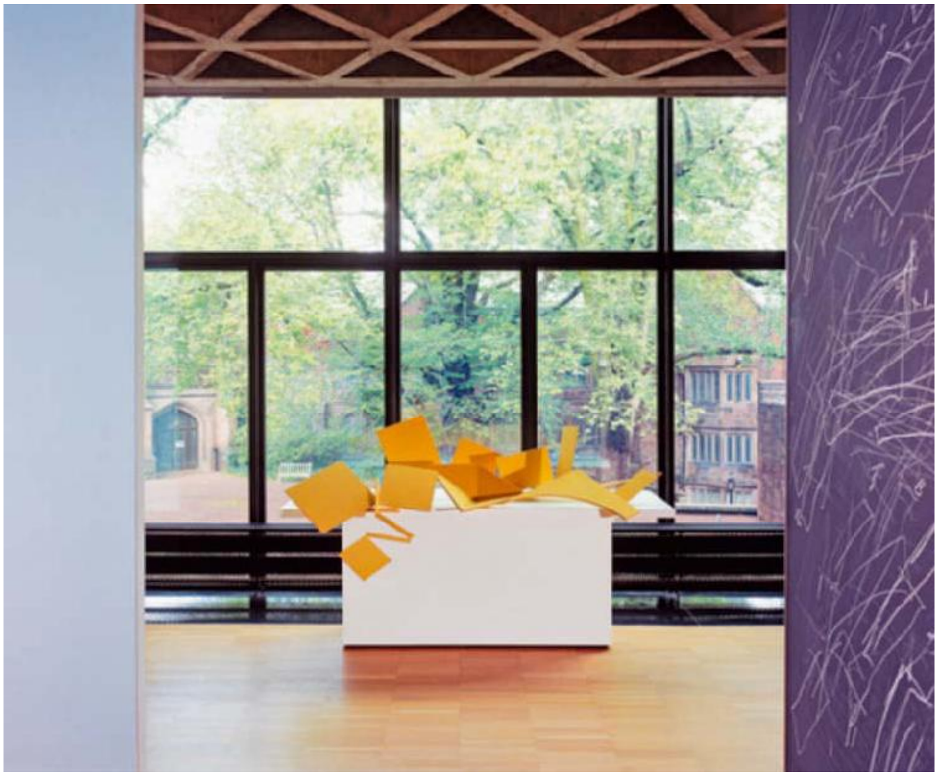
To replace the obsolete system, the architect and lighting designer specified short and flexible sections of track that could be threaded through the ceiling hollows. They put this track in every bay, instead of replicating the alternating bay arrangement of the existing building. Only later did they discover that they had duplicated the configuration called for in Kahn's original design documents.

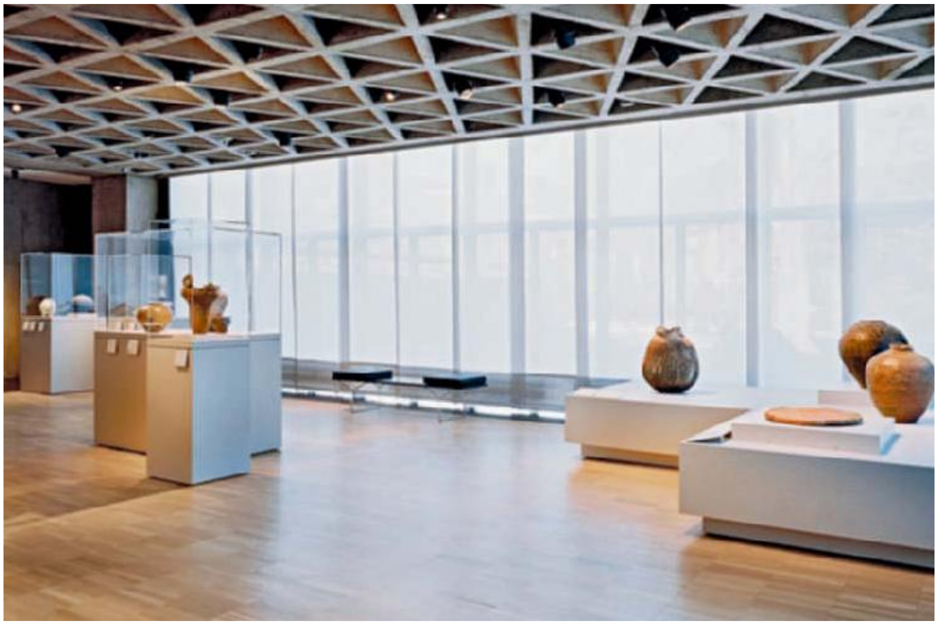
The new lighting design provides more flexibility for the display of artwork and allows curators to maintain proper lighting levels without fixtures that drop below the bottom of the ceiling. "It creates a cleaner look," says Forrest.

PHOTOGRAPHY: © PETER AARON/ESTO (THIS PAGE)



The spare furniture in the lobby media lounge is made of ebonized oak and takes its cues from the architecture's bold forms.





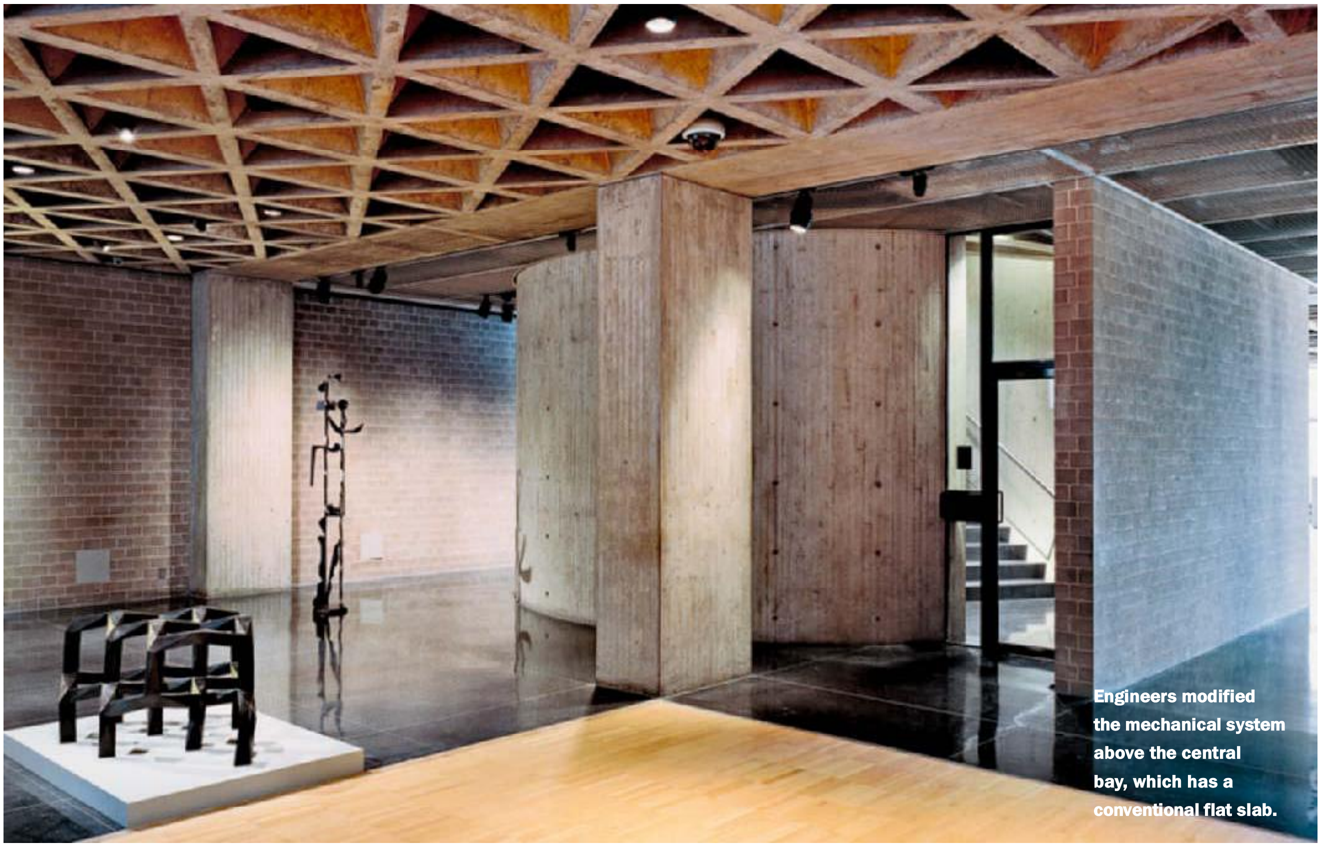
In the galleries, track lighting, now placed in every ceiling bay, augments daylight. Sensitive work can be protected with shading scrims. To prevent condensation, designers moved these scrims from their original location immediately next to the window walls to the room side of the radiator.

In addition to the track lighting, daylight also plays a crucial role in the exhibition spaces—one that can be more fully appreciated with the replacement of the handsome four- and five-story window walls. The originals, one of the first uses of insulated glass, were plagued by condensation problems, necessitating installation of an interior gutter soon after the building first opened. The new windows substitute thermally broken aluminum for the original steel frames, matching the exterior profile exactly. Interior dimensions vary slightly from Kahn's design to accommodate insulation and wind loads, says Lloyd DesBrisay, AIA, Polshek construction-phase project architect.

For further insurance against condensation, the designers increased radiator heating capacity and replaced Kahn's shading scrims, moving them from their original location immediately adjacent to the windows to the room side of the radiator. The configuration helps keep the glazing above the dew point, preventing condensation, says Michael Freliech, principal at Altieri Sebor Wieber, the mechanical engineer. This past winter, New Haven temperatures hovered just above zero for several days, yet no condensation developed.

Kahn's spring-loaded demountable display partitions were also replaced; the original plywood "pogos" were heavy and unwieldy. But the new version has a honeycomb core. The ease of moving the lighter panels, along with infrastructure improvements, such as an elevator that can accommodate the collection's larger pieces, should facilitate the changing of exhibitions.

Flexibility and modularity are also evident in the lobby's new media lounge, designed by Yale professor and New York City–based architect Joel Sanders. Here mobile furniture and display cases on casters can be reconfigured to suit a variety of activities, including informal study, receptions, lectures, or films. The spare units, made of ebonized oak, are different from, but sympathetic to, the architecture's



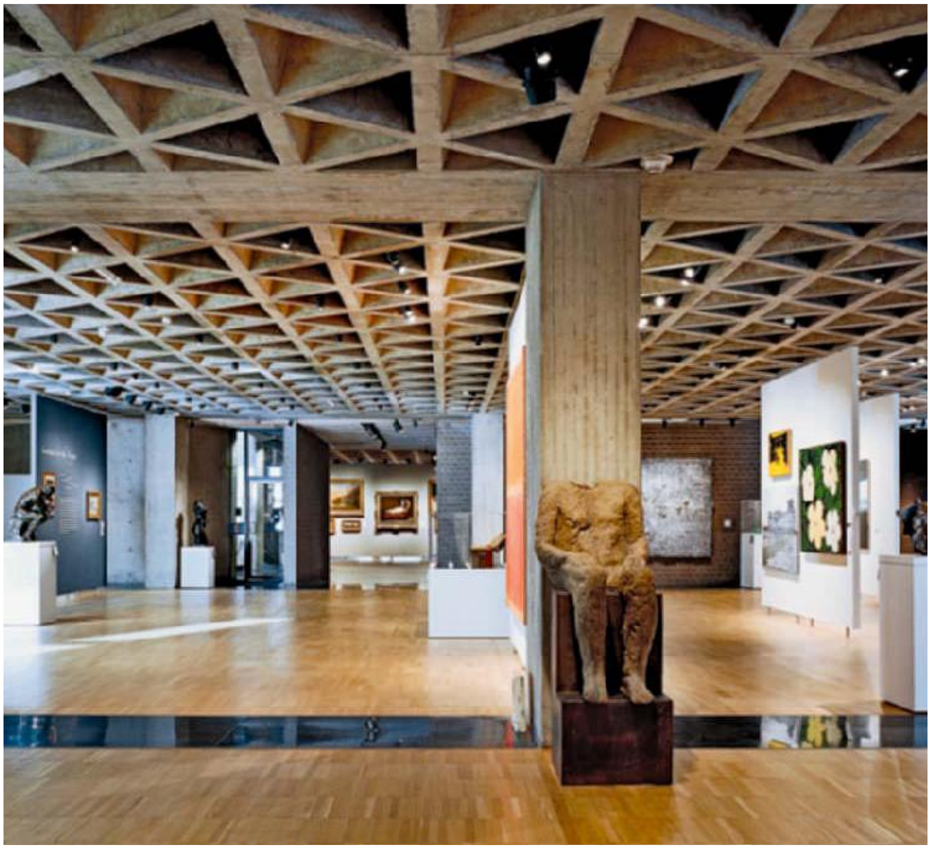
Engineers modified the mechanical system above the central bay, which has a conventional flat slab.

powerful forms. "The furniture is in the spirit of Kahn but does not slavishly mimic him," says Sanders.

Commentary

The renovation of the Yale University Art Gallery represents a significant technical accomplishment. The designers have restored the building's flexibility and utility, while addressing the shortcomings of its outdated systems. And they have managed to do this without compromising the building's bold geometry, and without muting what Duncan Hazard, Polshek's partner in charge, calls its "tough elegance."

Kahn's rich palette of materials has been brought back to life. The warm quarter-sawn oak floors contrast with the dark and smooth terrazzo. Drywall that had covered the concrete-block walls has been removed, revealing their textured surface. And although their scars have been patched, the poured-in-place elements retain the imprint of the original wooden forms. "The materials," marvels Reynolds, "just talk to each other." ■



Two: TEMPLE EMANU-EL

New York City

Beyer Blinder Belle Architects has delved into every nook and cranny to restore and refurbish a beautifully crafted synagogue.

By Sara Hart

Architect: *Beyer Blinder Belle Architects & Planners—John H. Beyer, FAIA, executive partner; Tom Lindberg, AIA, project manager; Kohn, Butler, and Stein, original architects; Goodhue Associates, original consultants*
Client: *Congregation Emanu-El—Dr. David Posner, senior rabbi*
Consulting restoration architect: *James W. Rhodes*
Client architect: *Barteluce Architects & Associates*
Engineers: *Office of James Ruderman (structural); Atkinson Koven Feinberg (m/e/p); Jaffe Holden (acoustics); Sachs Morgan (lighting)*

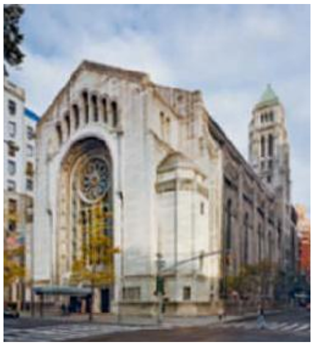
Size: *30,000 square feet*
Cost: *$30 million*
Completion date: *Fall 2006*

Sources
Sponges for Guastavino
Akoustalith tiles: *Akachemie (Wishab sponge)*
Cleaner for limestone, granite travertine: *ProSoCo (Enviro Klean)*
Upholstery fabric: *Scalamandre (pews); Old World Weavers (bimah chair)*
Acoustical ceiling panels: *Sound Concepts Acoustical Products*
Lighting control system: *Electronic Theater Controls*

To rate this project and for additional information, go to Building Types Study at **architecturalrecord.com/bts/**.

The largest synagogue in the world occupies a prominent corner on New York City's Fifth Avenue across from Central Park. Surprisingly, it has not achieved the acclaim of comparable Manhattan architectural landmarks, such as Grand Central Terminal or Saint Patrick's Cathedral. Designed by Kohn, Butler, and Stein and completed in 1930, Temple Emanu-El features an imposing limestone facade, marked by a magnificent stained-glass wheel window by Oliver Smith, behind which resides a soaring, 103-foot-high, clear-span basilica, clad in Siena marble and enriched with glass mosaics and gold tiles. The ornamentation is masterful: Red, green, and yellow columns with individually distinct capitals support the side galleries; steel trusses with exposed rafters and tie beams spanning the ceiling are covered in plaster and also painted rich reds, blues, greens, and yellows. Gold leaf interwoven into the polychromatic ceiling elements bestows a soft gleam to these upper reaches. The room, which seats 2,500, is flanked by the equally stunning Beth-El Chapel. More intimate in scale, it is distinguished by two domes resting on granite columns.

While it may seem unusual to design a synagogue inspired by Romanesque churches, one of Temple Emanu-El's architects, Clarence Stein (a major proponent of the garden city movement), explained in the February 1930 issue of *The Architectural Forum* that this Romanesque style peculiar to southern Italy showed a Moorish influence, and appropriately reflected "the intermingling of Occidental and Oriental thought."



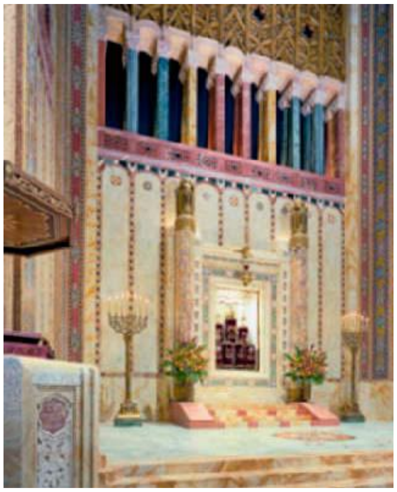
Program

Although the interiors had always been properly maintained, the enormous size of the space and lack of access to many of the areas made cleaning difficult. As a result, 75 years of accumulated city grime, soot, and dust had diminished the original luster of the materials, creating a dingy, oddly monochromatic pallor throughout. In addition, aging gutters and roof leaders had started to fail, and water had migrated into the interiors, damaging the plaster ceiling and stone and tile walls.

Beyer Blinder Belle Architects & Planners (BBB), the firm responsible for refurbishing Grand Central Terminal in 1998, directed this $30 million restoration and upgrading of the m/e/p systems. The architects undertook the work in two phases so the temple could remain open during the Jewish High Holy Days.

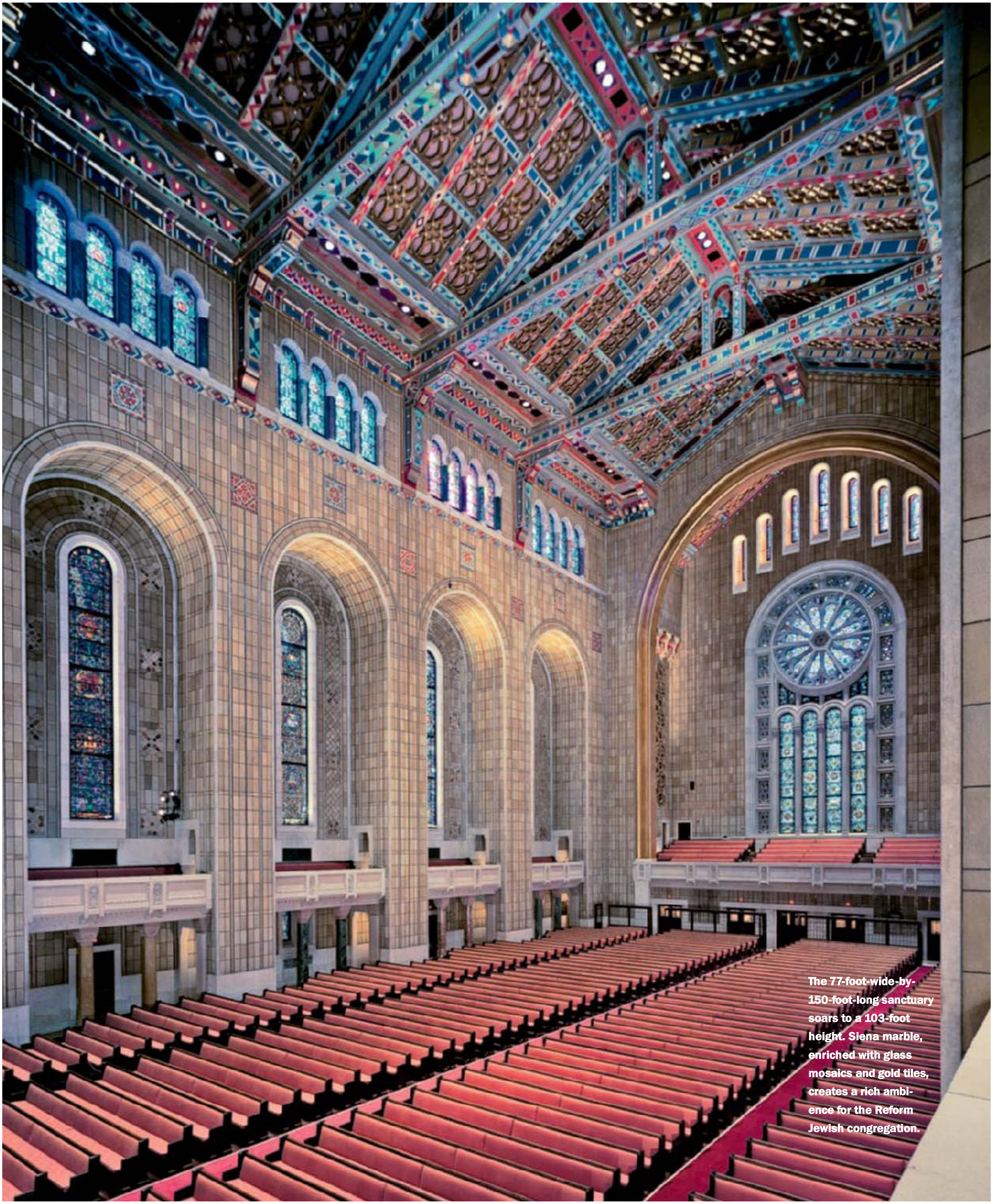
Solution

In this case, the solution was not an architectural one in the usual sense. Success depended on meticulous research and planning before any

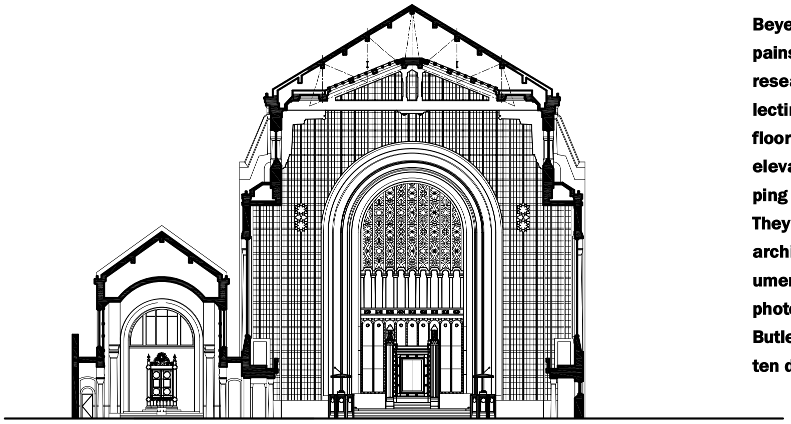


The imposing limestone facade of the temple (top), on Fifth Avenue, is marked by a stained-glass wheel window. At the east end of the sanctuary is the bimah and organ loft (right).

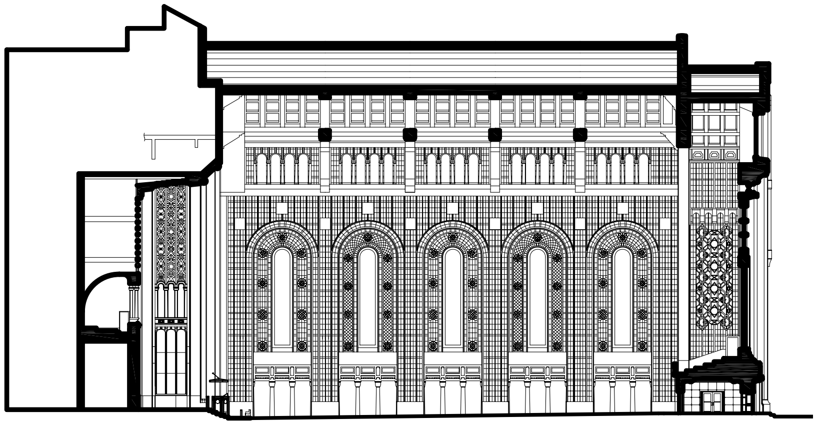
PHOTOGRAPHY: © BRIAN ROSE PHOTOGRAPHY



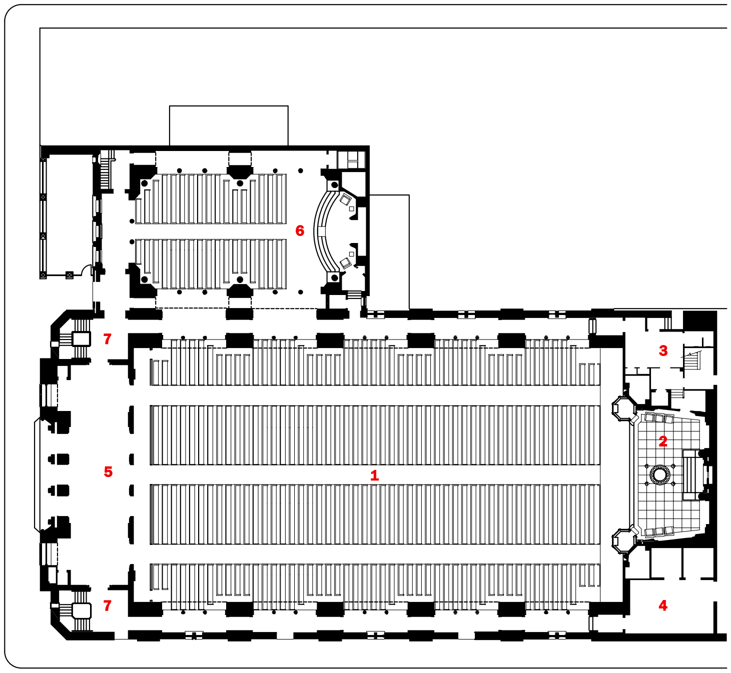
The 77-foot-wide-by-150-foot-long sanctuary soars to a 103-foot height. Siena marble, enriched with glass mosaics and gold tiles, creates a rich ambience for the Reform Jewish congregation.



EAST ELEVATION / SECTION THROUGH SANCTUARY AND CHAPEL



SOUTH ELEVATION / SECTION THROUGH MAIN SANCTUARY



ENTRY LEVEL

Beyer Blinder Belle's painstaking process of research included collecting data, drawing floor plans and various elevations, and mapping problem areas. They were aided by an archive of original documents, construction photographs, and Kohn, Butler, and Stein's written descriptions.

1. *Main sanctuary*
2. *Bimah*
3. *Rabbi's robing room*
4. *Community house lobby*
5. *Vestibule*
6. *Beth-El Chapel*
7. *Memorial stair*

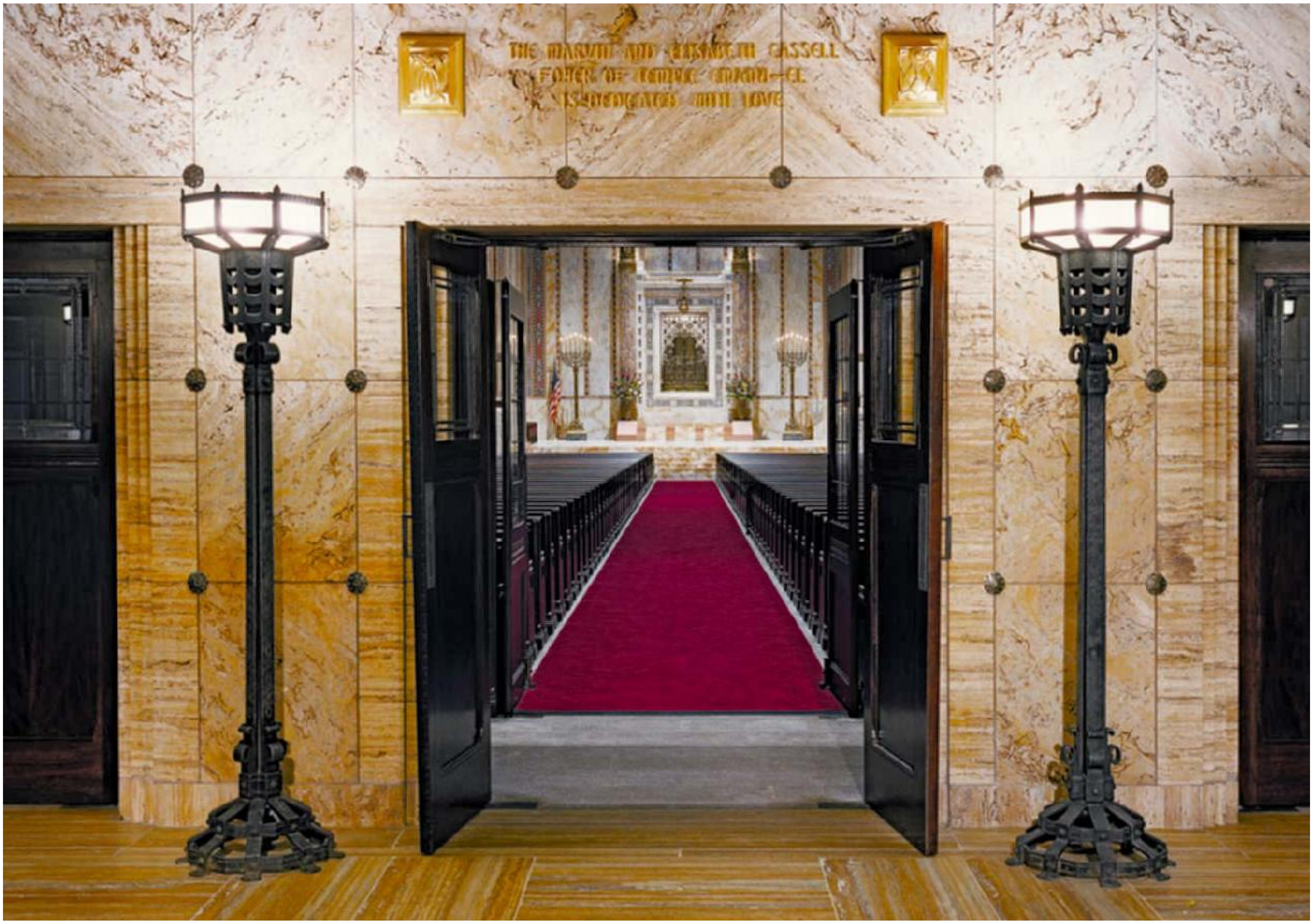
restorative action could be considered. According to project architect Tom Lindberg, AIA, BBB contracted specialists in the industrial roped-access techniques used in rock climbing and caving to survey and document the conditions of inaccessible recesses 100 feet above the floor.

Once that data was collected, the architects began the arduous process of drawing floor plans and elevations and mapping every problem. They were aided by an extensive archive of original material. With the mapping process, BBB located areas of water staining, efflorescence, plaster decay, marble cracks, mosaic-tesserae loss, metal corrosion, and paint failures.

After this phase, the architects began testing multiple treatments for a mind-boggling list of materials, including 20 species of stone—among them marble, granite, limestone, and travertine—ceramic and glass tiles; marble mosaics; several metals, including ornamental bronze, steel, nickel, and brass; painted and gilded plaster; Guastavino's sound-absorbing Akoustalith tile; and polychromatic inlaid wood marquetry. Treatments ranged from the relatively simple development of dry-cleaning techniques for porous materials and palettes for matching paint colors to the disassembly, releading, and resetting in new frames of 5,000 square feet of painted and stained glass windows. Careful hand-cleaning revealed rich colors in the marble that corresponded to those in the stained glass.

Commentary

When the materials are fragile and, therefore, vulnerable, the act of cleaning poses a clear and present danger. The architects were patient and thorough, expanding the normal expectation of due diligence to one of exhaustive effort. Because of BBB's obsessive attention to detail, no compromises were necessary, and no harm was done. The interiors have the same dazzling luster today as they did the day the temple opened 75 years ago. Perhaps now, Temple Emanu-El will receive the architectural recognition that has eluded it. ■


THE MARVIN AND ELISABETH CASSELL
FOYER OF TEMPLE EMANU-EL
IS DEDICATED WITH LOVE

As part of the $30 million restoration effort, Beyer Blinder Belle cleaned, repaired, and repainted the chapel (right). A stained-glass window designed by Louis Comfort Tiffany, recovered from the temple's previous location, occupies the east wall. BBB cleaned the Siena travertine walls and the beamed walnut ceiling of the low-ceilinged lobby, which opens off Fifth Avenue (above and left). BBB also upgraded lighting and replaced two Samuel Yellin–designed torchères with replicas.

Three: GRIFFITH OBSERVATORY

Los Angeles, California

Pfeiffer Partners and Levin & Associates Architects' restoration and expansion of L.A.'s beloved landmark lures stars back to Hollywood.

By Russell Fortmeyer

Architect: *Pfeiffer Partners Architects—Stephen Johnson, AIA, principal in charge; David Hart, AIA, Edward Carfagno, AIA, Steven Hall, AIA, Stephanie Kingsnorth, AIA, Lalida Nakatani, AIA; Austin and Ashley, original architects*
Associate architect: *Levin & Associates Architects—Brenda Levin, FAIA, principal; Robert Knight, project architect*
Client: *City of Los Angeles*
Consultants: *Miyamoto International (structural); M-E Engineers (m/e/p); Pfeiffer Partners Architects (interiors); Melendrez Design Partners (landscape); Psomas and Associates (civil); Horton-Lees Brogden Lighting Design; McKay Conant Brook (acoustical, audio-visual); C&G Partners (exhibits, signage); Auerbach + Associates (theater/planetarium audiovisual); Simpson Gumpertz Heger (exterior conservator); Rainer and Zebala (murals conservator); S.J. Amoroso Construction (general contractor)*

Size: *27,300 square feet (renovation); 39,600 square feet (addition)*
Cost: *$93 million*
Completion date: *October 2006*

Sources
Copper roofing: *Van Nuys Sheet Metal*

For additional photos, interviews, and background, go to Building Types Study at architecturalrecord.com/bts/.

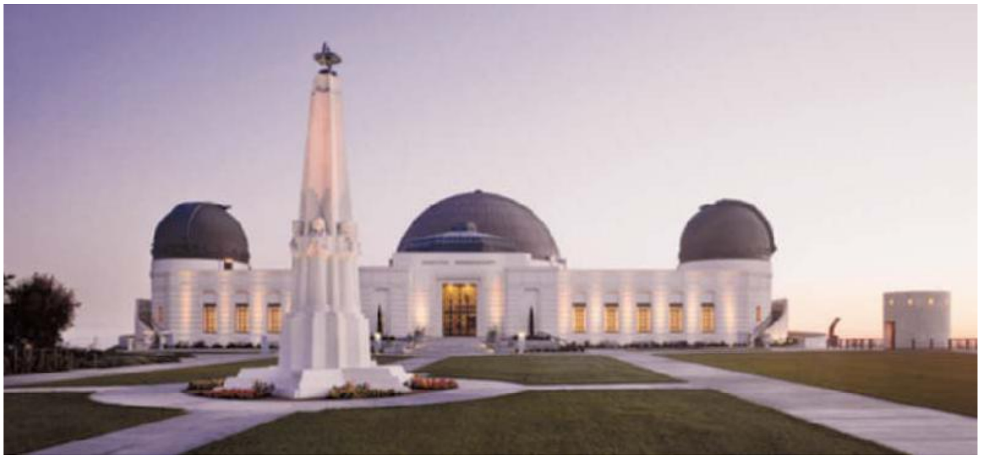
Like Los Angeles, the Griffith Observatory, a 1935 Art Deco masterpiece conceived by Russell Porter and designed by the firm Austin and Ashley, exists in several domains, illusory and real. Whether glimpsed in the movies—1955's *Rebel Without a Cause* or 1984's *The Terminator*—or as a twilight destination in the Hollywood Hills, the Griffith's iconic three-domed structure, what longtime observatory director Edwin Krupp calls the "hood ornament of Los Angeles," also provides that rare Los Angeles accident: true public space.

The observatory rests on Mt. Hollywood, at the top of the 3,000-acre Griffith Park, overlooking Hollywood and Downtown L.A. (above), with views to the west toward the Pacific Ocean.

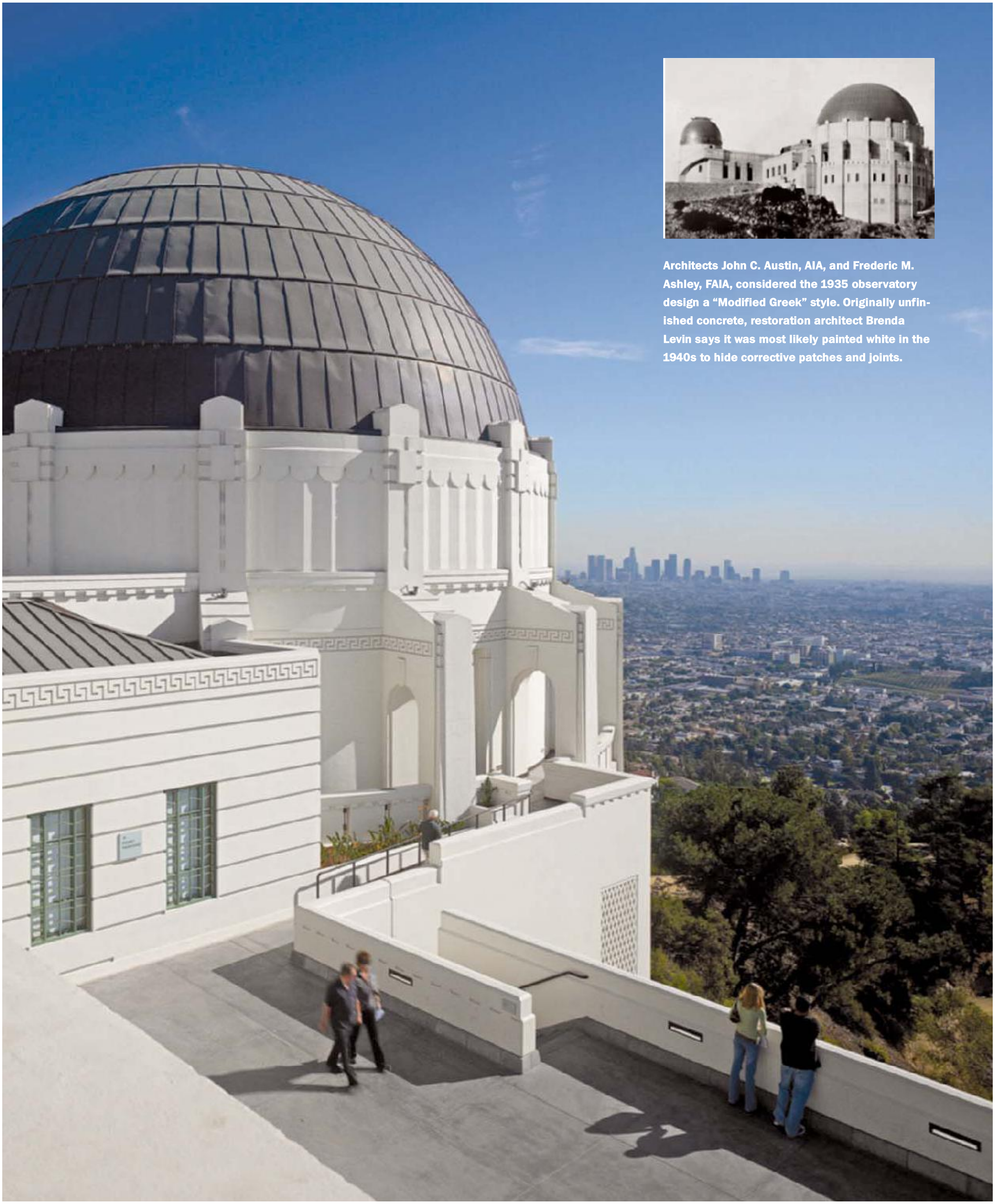
Angelenos have come to take for granted the drop-dead views of the L.A. basin from the Griffith's formal Beaux-Arts rear terraces and colonnade, as well as the informative, accessible displays of astronomy's wonders inside (see page 183 for more on the new exhibits). They didn't foresee that their fondness for the building would wear it out to the point where it would need to close for five years while comprehensive restoration could occur.

Program

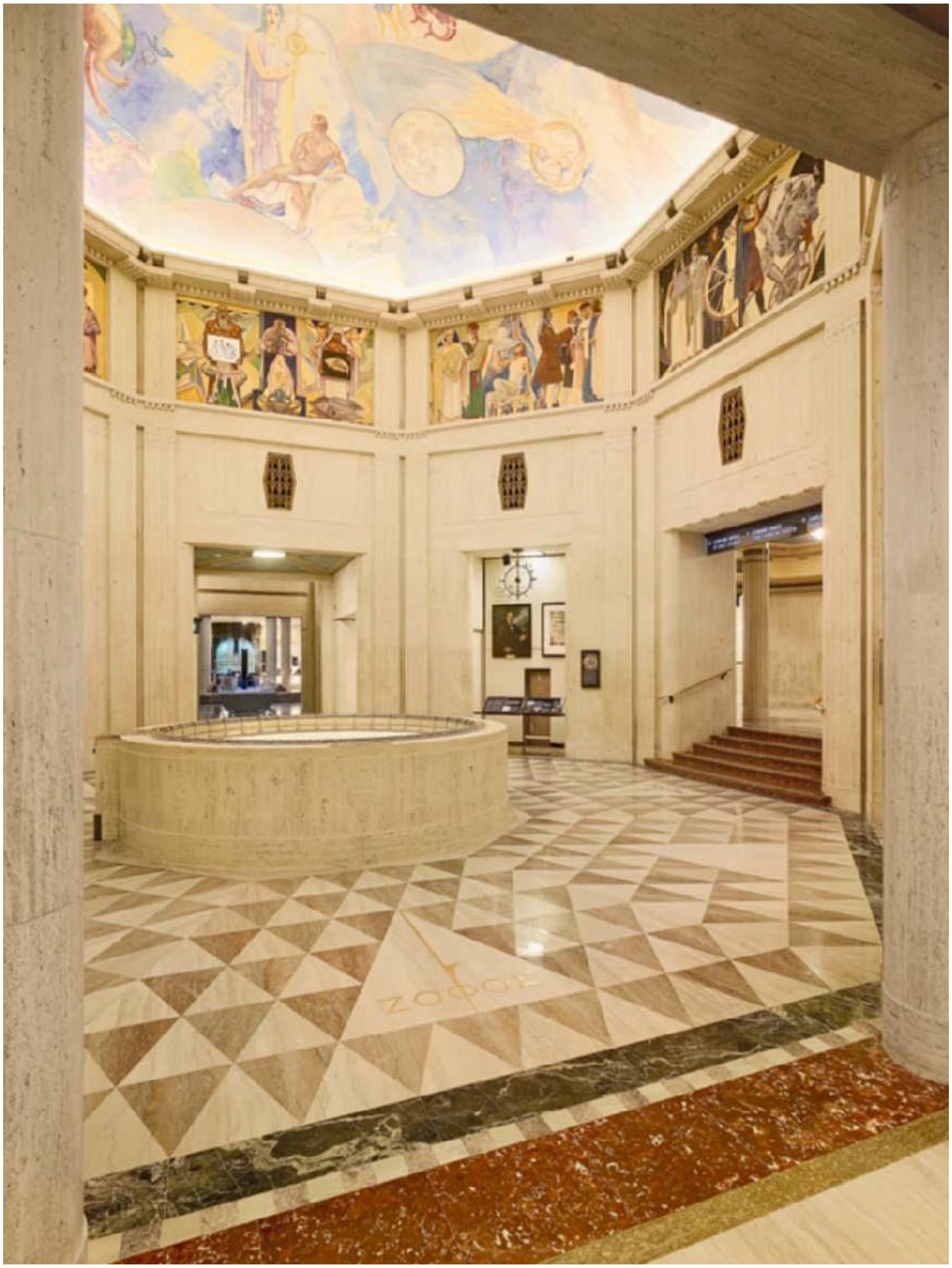
Pfeiffer Partners and Levin & Associates respected these convictions when the two L.A. architectural firms collaborated on the preservation and expansion of the observatory



PHOTOGRAPHY: © TIM GRIFFITH, EXCEPT AS NOTED: COURTESY GRIFFITH OBSERVATORY (OPPOSITE, TOP RIGHT)



Architects John C. Austin, AIA, and Frederic M. Ashley, FAIA, considered the 1935 observatory design a "Modified Greek" style. Originally unfinished concrete, restoration architect Brenda Levin says it was most likely painted white in the 1940s to hide corrective patches and joints.



Conservationists restored the Hugo Ballin murals in the central rotunda (right). The Griffith's Foucault pendulum (above, not visible), hanging in the middle of the rotunda, indicates the rotation of the Earth as it swings.

during a 10-year, $93 million project. It helped considerably that the two firms' principals—Pfeiffer's Stephen Johnson, AIA, and Brenda Levin, FAIA—had worked on some of the most high-profile historic preservation projects in Los Angeles, including Pfeiffer's 1993 renovation of Bertram Goodhue's 1926 central library (at the time, Pfeiffer was part of Hardy Holzman Pfeiffer) and Levin's 2001 renovation of A.C. Martin's 1925 city hall.

Johnson and Levin approached the project as a study of dualities—the existing and the new, the iconic and the contemporary, the sky and the ground. Walking up to the building, you would never know the architects had taken the existing 27,000-square-foot building's cramped galleries and increased their size with nearly 40,000 square feet of new underground space.

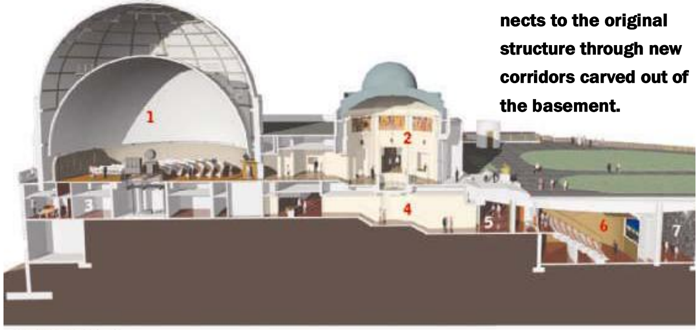
Solution

The original design's brilliance rests largely in the architects' embrace of the program as a container of and surface for instruments for observing the sky. Johnson says these aspects inspired the design of the expansion to express itself as an instrument, in this case a "transit corridor" along the new west elevation that tells astronomical time. Located on a north–south line, the device lies between a glass curtain wall and a detached glass wall, both framed in heavy bronze.

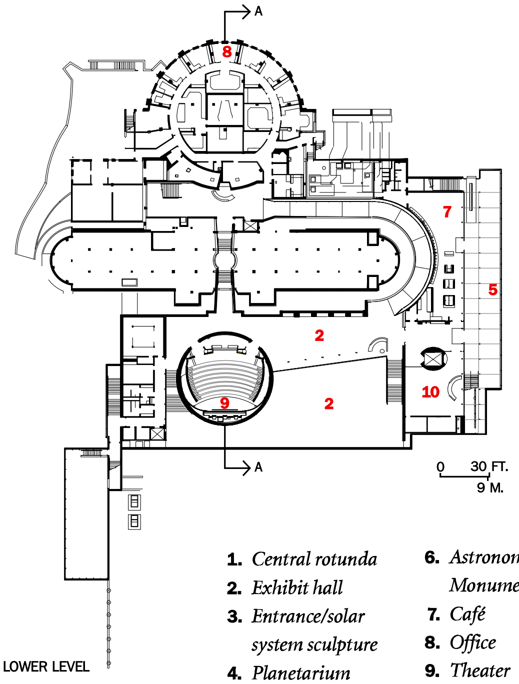
The bronze used throughout the observatory connects materially to the darkened copper of the domes. Levin says at first she thought they could remove the copper cladding from the concrete dome over the planetarium, add a layer of waterproofing, and replace the copper, but test results on the copper indicated the need to replace the cladding with a historically accurate system. The architects gutted the interior of the planetarium, which allowed a temporary structure to rise from the center of the space's floor and up through the double dome to support hanging scaffolding that enabled contractors to restore the dome without damaging its structural integrity.

The Hall of the Eye room (bottom right) in the original building includes diagrams of optical instruments on the ceiling, as well as a 12-inch-diameter Zeiss telescope. The new Gunther Depths of Space gallery (middle right) includes recent space exploration.

In section, new exhibition space lies under the front lawn and connects to the original structure through new corridors carved out of the basement.

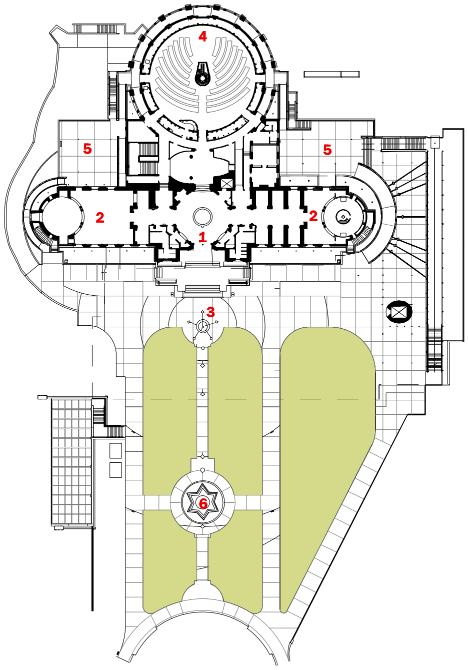


SECTION A-A

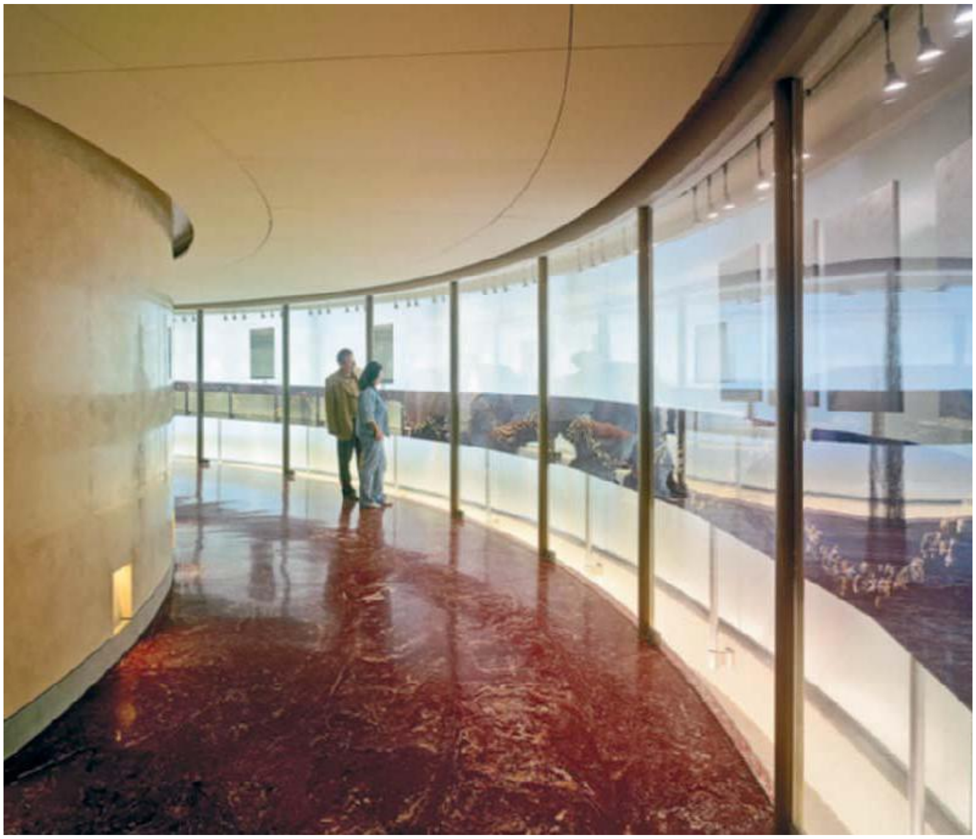


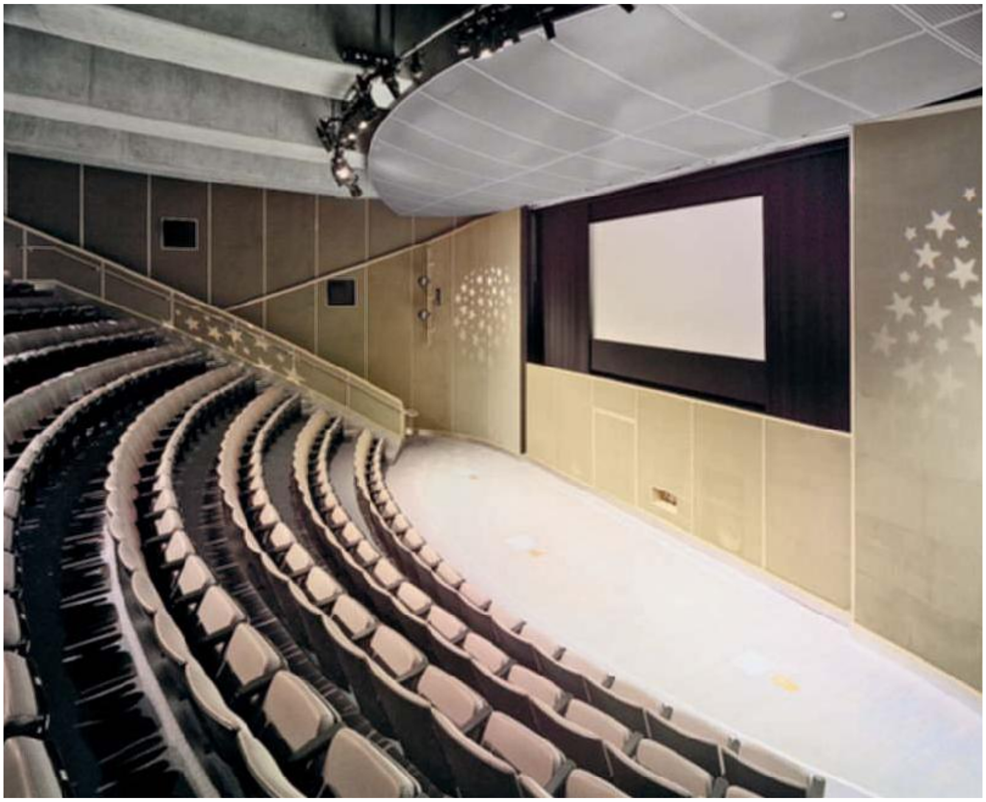
LOWER LEVEL

1. *Central rotunda*
2. *Exhibit hall*
3. *Entrance/solar system sculpture*
4. *Planetarium*
5. *Terrace*
6. *Astronomer's Monument*
7. *Café*
8. *Office*
9. *Theater*
10. *Gift shop*



ENTRANCE LEVEL





The Cosmic Connection gallery (left), which displays quirky astronomically themed jewelry on loan from a Griffith board member, connects to the basement and the Leonard Nimoy Event Horizon Theater (below).

Due to the 1933 Long Beach earthquake, the original architects eschewed the vogue for a Spanish Revival tile dome, embracing concrete in order, Levin says, to "use materials volumetrically in a clean, modern building," resulting in a "fortresslike" building that needed no structural upgrades. The high craftsmanship of the original observatory was owed to cheap, Depression-era labor, says Johnson, and it shows in the restored exterior details, heavy bronze window grates, and the marble floor and travertine walls of the rotunda.

The architects converted the basement of the original structure into expanded offices and carved out a connecting stair with Venetian plaster walls. Visitors descend farther via two corridors to the Gunther Hall and Nimoy Theater, both framed in extraordinarily large concrete beams and columns designed to support large fire trucks on the lawn above, if needed. Nothing prepares you for the vastness of this space, as it opens up as a lesson in planetary scale. The circular-plan theater, designed to mimic the circumference of the sun, dwarfs the scaled planets hanging across the ceiling. (For the record, Pluto is included.)

Commentary

Bound up in the history of architecture is the history of architects, most often revealed through the need for collaboration. Good architects may fulfill a client's needs, but great architects reveal the nature of a place, helping us formulate a concept of history—that constructed realm of permanence—even in a shifting, fractured landscape such as Los Angeles. Johnson and Levin have eloquently solved one of architecture's enduring questions—how are we to treat buildings that belong to the public, but no longer adequately serve it—in a building with as much order and clarity as the heavens it displays. ■

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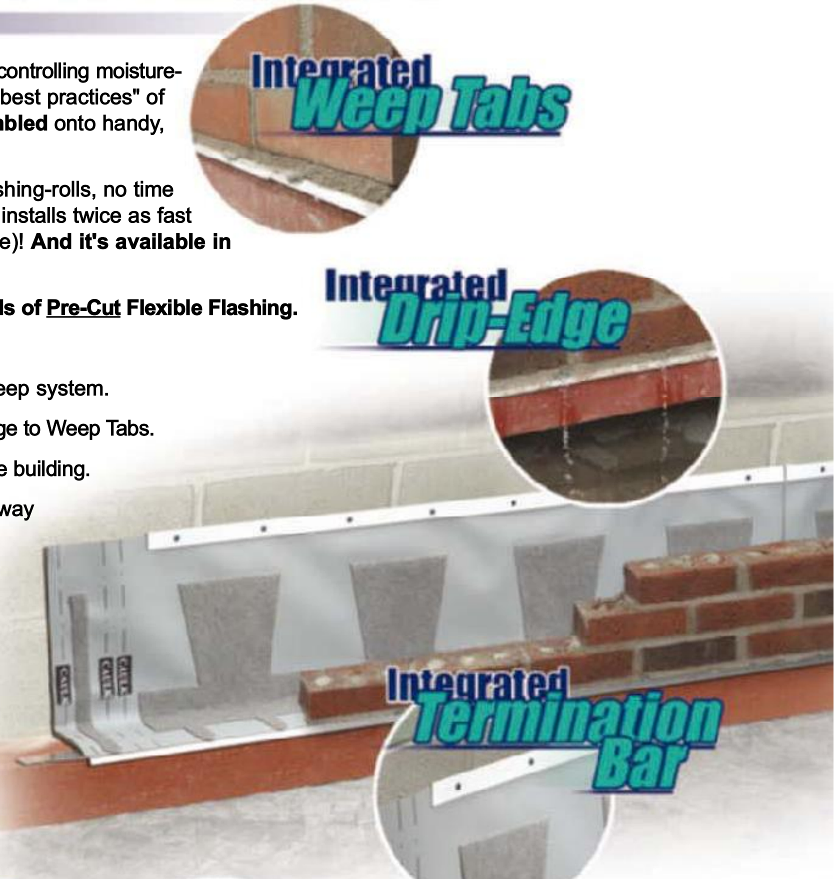

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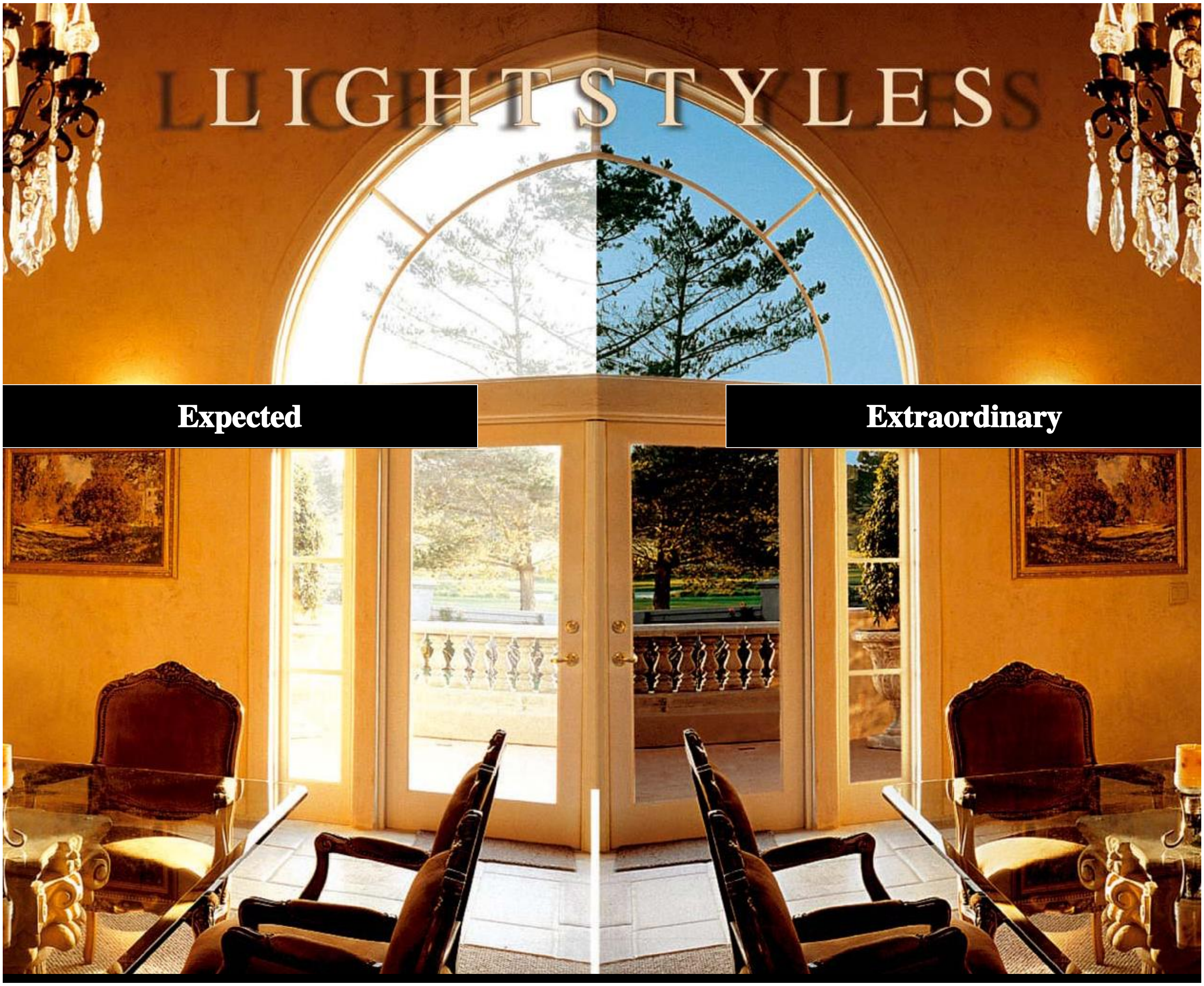

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Architectural Technology

To tackle preservation challenges, architects find the delicate balance between competing demands

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183 **Tech News & Reviews**

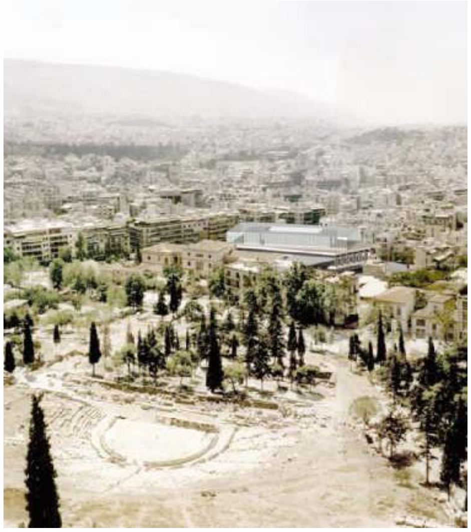
A museum builds a "bathtub" for its German sub (page 180).

A capitol expands but remains a temple on a hill. (page 167).

IMAGES: COURTESY BERNARD TSCHUMI ARCHITECTS (RIGHT); © TOM CRANE (BOTTOM LEFT); MARK BALLOGG (TOP LEFT)

Any architect who has been asked to preserve, adapt, or expand a historic building knows that such an assignment can be a challenging one. Saving significant structures while equipping them for contemporary use requires satisfying the often conflicting demands of aesthetics, program, and performance. When conserving or upgrading a cherished existing building, designers face myriad difficult decisions, such as which elements are critical to save, when to substitute different materials, and how best to incorporate new systems.

Such a balancing act was required of the architects of the first project featured in this month's technology section—the just-completed renovation and expansion of the Virginia State Capitol in Richmond. Hillier Architecture and its consultants diagnosed the source of moisture problems, analyzed original finishes, and invisibly integrated up-to-date infrastructure within the building's historic fabric. They also devised a way to add on to the capitol without compromising its aesthetic or structural integrity.



From the Acropolis, in Athens, visitors will be able to see the new museum built to house sculpture and artifacts found at the site, including works from the Parthenon (page 176).

Our second feature is not a traditional preservation story. It examines the New Acropolis Museum now nearing completion in Athens. Here the architects faced the challenge of creating an appropriate environment for the preservation and display of culturally significant architectural fragments, many of which are at the center of an international controversy. They also had to cope with a sensitive context that included the nearby Parthenon and archaeological ruins on the museum's site.

Finally, we discuss the design and construction of a new home within Chicago's Museum of Science and Industry for a 700-ton submarine that until recently had been on view outdoors on the museum's grounds. The subterranean solution for the installation seems especially fitting given the nature of the object on display. *Joann Gonchar, AIA*

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A Revered Jeffersonian Landmark Renewed

WITH THOROUGH RESEARCH, TESTING, AND ANALYSIS, A HILLIER-LED DESIGN TEAM EQUIPS THE STATE CAPITOL OF VIRGINIA FOR THE 21ST CENTURY, WHILE PRESERVING ITS RICH HISTORY

By Nancy B. Solomon, AIA

Of the 50 working state capitols in the U.S., arguably none is as historically significant as that of Virginia, in the city of Richmond. The original building, begun in 1785, was essentially the design of Thomas Jefferson, author of the Declaration of Independence and third president of the United States. With this commission, Jefferson sought to embody the ideals of the American Revolution in architectural form.

Eschewing the provincial English Georgian style prevalent in the period, Jefferson looked to ancient Roman models for inspiration. "He was trying to provide a model that would be eternally beautiful," explains Calder Loth, senior architectural historian at the Virginia Department of Historic Resources. Jefferson designed the capitol after the Maison Carrée, a Roman temple in Nîmes, France, as depicted in engravings by Charles-Louis Clérisseau. Situated on what was known as Shockoe Hill, with a ceremonial portico overlooking the James River to the south, the brick structure rose high above all else in Richmond. Main entrances to the east and west led through vestibules to a central skylit rotunda. Double-height assembly halls flanked this grand space on the north and south.

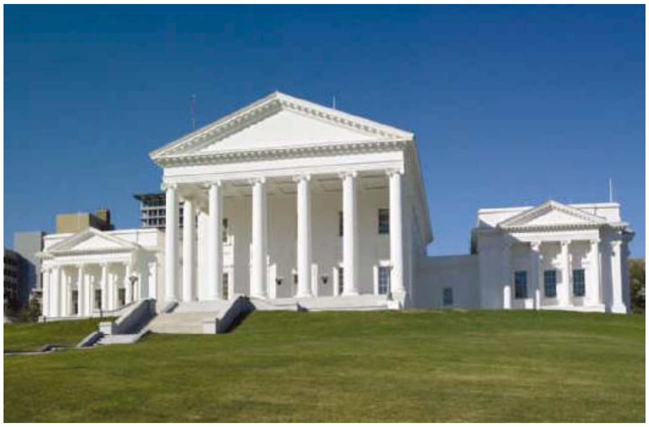
The shape of democracy

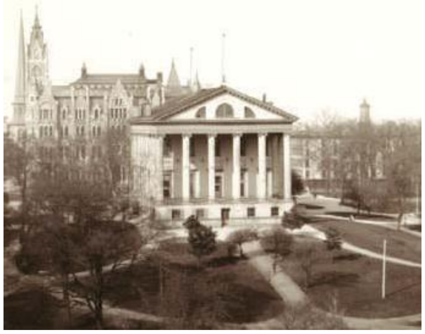
Reflecting the imagery that developed alongside the birth of democracy, Jefferson's house of government was a highly visible and dignified structure that evoked respect yet encouraged citizens to participate in the democratic process. And, as Jefferson had hoped, the building became a model for the architecture that would house virtually all public institutions, from capitols and courthouses to post offices and libraries. "It began the Classical Revival movement in this country," notes Loth.

The vision of the primary architect was strong and clear enough to allow the building to adapt to the needs of later generations without diluting Jefferson's concept. As scholar Fiske Kimball pointed out in "Thomas Jefferson and the First Monument of the Classical Revival in America," which appeared in the *Journal of the American Institute of Architects* in 1915, even the original construction deviated in minor but discernable ways from the design. Jefferson sent drawings from France, where he was serving as U.S. minister. However, work began before the documents arrived, and builders laid a foundation that was larger than the one called for in these plans. They also raised the height of the first floor and omitted the ceremonial steps intended for the south-facing portico.

As time marched on, the building and surrounding Capitol Square provided the backdrop to other notable events. In 1807, Aaron Burr was tried for treason here, and ultimately acquitted. From May 1861, until Robert E. Lee's army abandoned Richmond in April 1865, the building served as the capitol for the Confederacy. Remarkably, the structure escaped the ensuing fires that burned much of the rest of the city.

Between 1904 and 1906, two symmetrical wings—one for the





For more than a century after it was built, the Virginia State Capitol remained a structure with a single columned portico and pediment (left). Around 1906, two symmetrical wings were added, giving the building much the same appearance it has today (above).

IMAGES: COURTESY HILLIER ARCHITECTURE, EXCEPT AS NOTED: © TOM CRANE (TOP); BEVERIDGE COLLECTION, VALENTINE RICHMOND HISTORY CENTER (BOTTOM)

CONTINUING EDUCATION

Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/ *AIA Continuing Education article. To receive credit, turn to page 174 and follow the instructions. Other opportunities to receive Continuing Education credits in this issue can be found on page 191.*

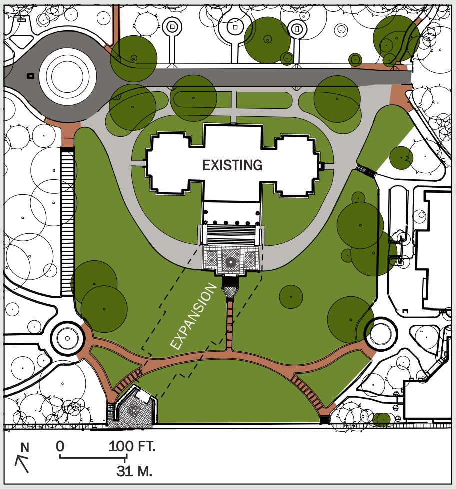
LEARNING OBJECTIVES

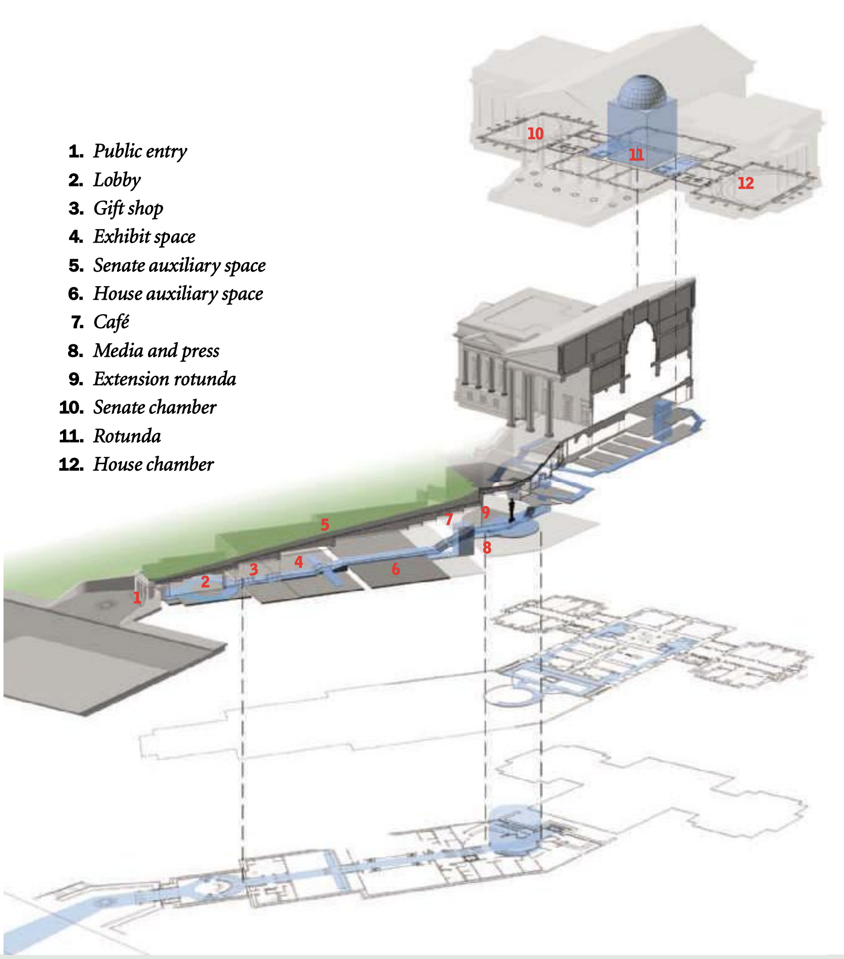
After reading this article, you should be able to:

1. *Explain Jefferson's design concept for the Virginia State Capitol.*
2. *Discuss the design considerations for the visitor center and new public entrance.*
3. *Describe the methods used to excavate the historic site.*

For this story and more continuing education, as well as links to sources, white papers, and products, go to **architecturalrecord.com/tech/**.

Nancy B. Solomon frequently writes about building science and is the editor of the forthcoming book, Architecture: Celebrating the Past, Designing the Future, *in honor of the AIA's 150th anniversary.*





1. *Public entry*
2. *Lobby*
3. *Gift shop*
4. *Exhibit space*
5. *Senate auxiliary space*
6. *House auxiliary space*
7. *Café*
8. *Media and press*
9. *Extension rotunda*
10. *Senate chamber*
11. *Rotunda*
12. *House chamber*

To provide space for visitors, exhibitions, and additional meeting rooms for the legislature, the architect designed an underground expansion. The public enters the expanded facility at the southern edge of the existing building's grounds, known as Capitol Square (above). To reach the historic structure, visitors travel through gradually ascending spaces, to a connecting rotunda. Realization of the scheme did not require underpinning the existing foundations—a risky and expensive process.

House and the other for the Senate—were added to the east and west, connecting to the original building's main entrances via narrow corridors. The expansion deferred to Jefferson's Classical precedent. At this time, Jefferson's steps were finally added to the portico. Another major renovation was undertaken in the early 1960s, which included enlarging the corridors leading to the legislative chambers and upgrading building systems.

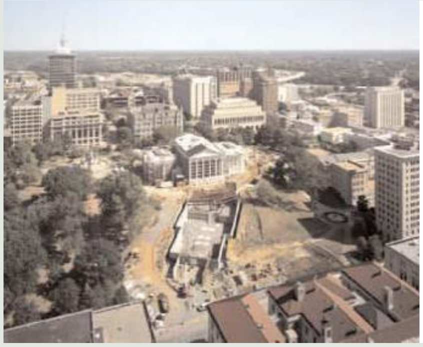
By the late 1990s, the complex still retained its status as the "temple on the hill," but was in great need of repair. "The building was like a shabby southern lady held together with Band-Aids," says Susan Clarke Schaar, the Clerk of the Senate. The plumbing was shot, freshly painted walls would quickly begin to peel, and the electrical system was problematic. In addition, space was at a premium. Even with the previous expansions, the building remained the nation's smallest working capitol, with only 60,000 useable square feet. And although the historic structure received up to 170,000 visitors annually, it had no dedicated reception area or room for educational programming.

But how does one repair, upgrade, and add on to a landmark with so many layers of historical significance? The answer comes from listening to the building itself, according to Philadelphia-based George C. Skarmeas, AIA, a principal of Hillier Architecture. The firm was selected in 2003 to lead the $105 million assessment, renovation, and expansion project, completed in early April. "The building had to be the first and most significant source of information and inspiration to guide us," he says.

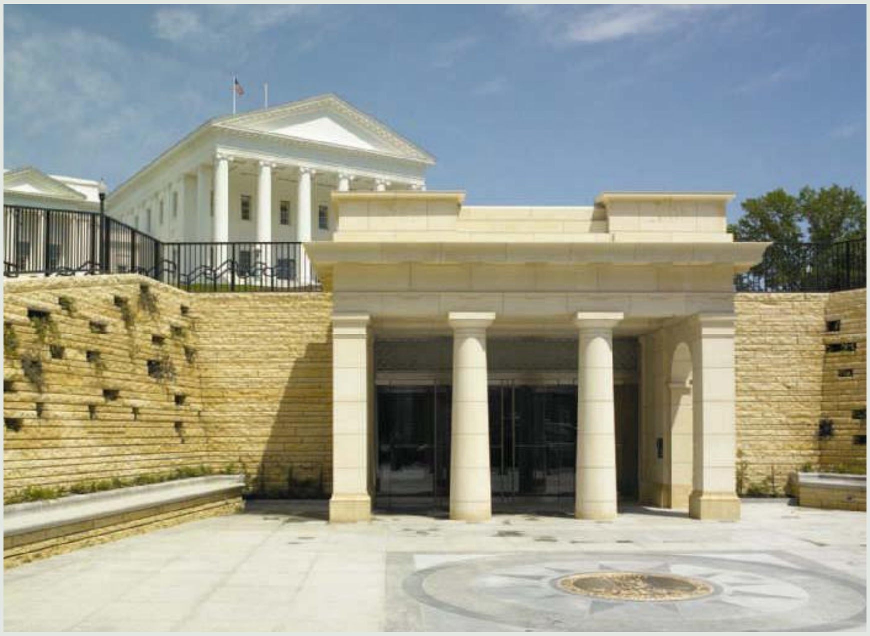
So began an extensive review of the existing complex by the highly integrated project team, which included not only Hillier and staff from the Commonwealth of Virginia's Department of General Services, but also an association of the Gilbane Building Company and the Christman Company as construction managers, structural engineer Robert Silman Associates, and mechanical engineer Joseph R. Loring & Associates, among a host of other consultants from the U.S. and abroad.

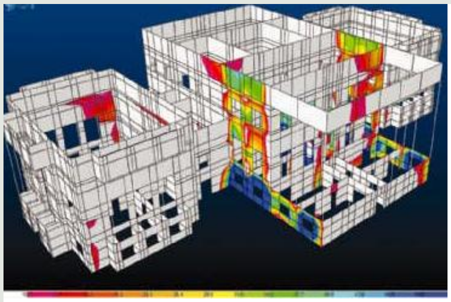
The team collected and reviewed historical documents to best understand Jefferson's design intent, the original construction, and the various changes that had occurred throughout the building's life. Cambridge, U.K.–based GB Geotechnics surveyed the facade with nondestructive testing tools. These included impulse radar to map the different layers of building materials and uncover potential voids between layers, metal detection and dynamic impedance equipment to identify specific materials,

THE VIRGINIA STATE CAPITOL BECAME THE MODEL FOR ALMOST ALL OF AMERICA'S PUBLIC ARCHITECTURE.



The underground extension is oriented at an angle to the existing building and surrounding street grid (above), allowing a small irregularly shaped plaza in front of the new public entrance (right). This new entry defers to Jefferson's original, without directly copying it. Through computer modeling, the engineers studied cracks that could develop within the historic structure due to the excavation. Fortunately, the actual settlement was so minute that no cracking occurred.





IMAGES: COURTESY GILBANE-CHRISTMAN GROUP (TOP LEFT); ROBERT SILMAN ASSOCIATES (BOTTOM); © TOM CRANE (TOP RIGHT)

and infrared thermography to locate areas of water intrusion.

Investigators selectively employed destructive testing methods to determine, for example, the performance characteristics of the brick mortar and critical structural steel elements. Frank S. Welsh, of Bryn Mawr, Pennsylvania–based Welsh Color and Conservation, spent months on-site, judiciously scraping dime-size samples of surface finishes. He then used a stereomicroscope to identify the various layers of paint that had been applied over the years. Through visual inspection, and with the use of a spectrophotometer, he defined the palette that would subsequently be reproduced.

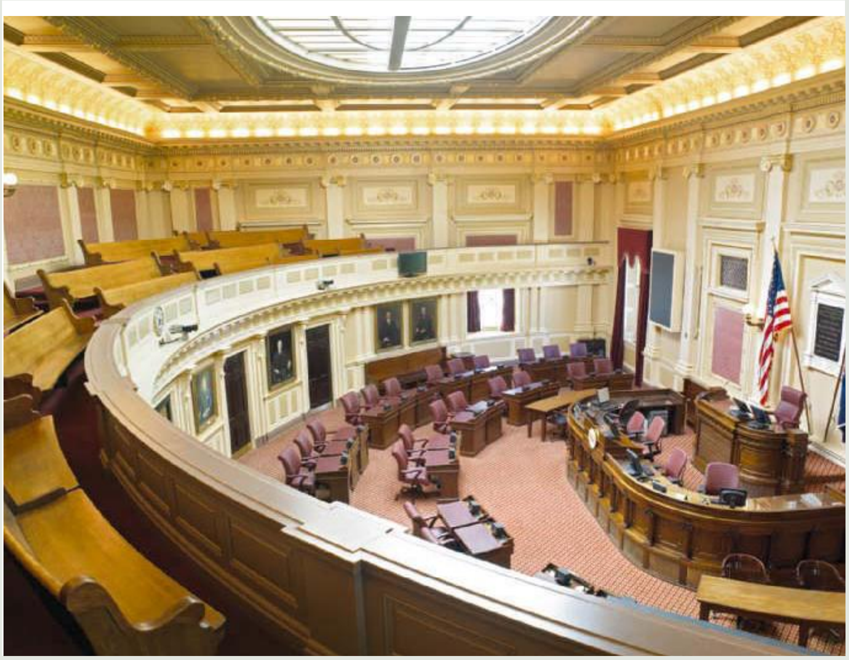
Water woes

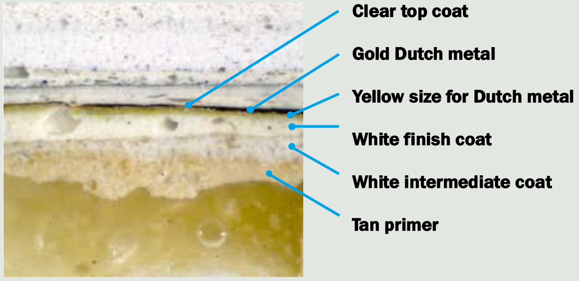
The most serious and ubiquitous problem facing the old capitol was water. Poorly detailed roof drains had allowed rain to seep in from above and, without a properly operating perimeter drainage system, its foundation of porous brick absorbed moisture from below. The air-conditioning was typically turned off at the end of every workday, leading to a spike in humidity by the next morning. In addition, the exterior stucco had been sealed in the 1980s with a coating that "created a wetsuit on the building," says Skarmeas. Investigators saw droplets of water on the masonry wall when they broke this skin in one area for testing.

Remedying the moisture problem required a multipronged approach that included roof drain replacement, installation of a new perimeter drainage system, and an overhaul of the mechanical system so that proper temperature and humidity could be maintained. Workers also removed the exterior stucco, repointed the underlying masonry, and refinished the walls with stucco, this time omitting the coating.

While problems were discovered, so also were pleasant surprises. For instance, although it had been assumed that the interior had been gutted and rebuilt during the 1906 renovation, material analysis revealed that much of the 18th-century woodwork had been carefully disassembled, catalogued, removed from the site, and ultimately reinstalled. The team also discovered and restored a circa 1910 decorative paint scheme in both the House and Senate chambers, which had long been covered up and forgotten. With their proper finishes, along with the reopening of their original skylights, these legislative halls have been reanimated.

Because the complex reached maturity around 1906, and because only fragments of 18th-century interior fabric were found, the team chose the early 20th century as the most logical period for restoration of the rooms' basic appearance. However, as a working capitol, the building required a mechanical, electrical, and plumbing infrastructure that was state-of-the-art. In typical preservation fashion, the architect





A variety of tools and visual inspection helped a conservator identify the many different layers of paint that had been applied to the building's interior surfaces (left). In the Senate chamber, a circa 1910 decorative paint scheme was restored and a skylight uncovered (above left). At the center of a stairwell, an ornamental "birdcage" that once housed an elevator was discovered during the course of the renovation project.

carefully studied the existing structure to determine the least intrusive locations for the necessary ductwork, conduit, and piping.

Designers located the primary vertical chases adjacent to two new elevator shafts in spaces that had once been the east and west vestibules in Jefferson's design, thereby avoiding disruption of the major assembly spaces. They also took advantage of the flues and chases that had been inserted in previous building campaigns. And the team installed a new ceiling in the attic of the 18th-century structure, creating a full-height floor for support staff. The top horizontal services loop runs above this ceiling, through a now shallower attic space.

STATE REPRESENTATIVES WERE ADAMANT THAT NO MAJOR STRUCTURE BE ADDED TO CAPITOL SQUARE.

Locating the bottom horizontal loop for the building services was more complex because the team wanted the first floor's 18th-century ceiling vaults to remain exposed. Designers decided to break through the first floor slab, which had been installed in the 1960s and was therefore not considered historic. Contractors excavated about 2 feet down, without extending beyond the level of the original footings, to avoid destabilizing the structure. In some locations, ducts, pipes, and conduits penetrate load-bearing walls. Balancing the spatial requirements of this infrastructure with the need to limit the size of cutouts in masonry walls was a "three-dimensional puzzle," says Kirk I. Mettam, Silman Associates principal.

Extending south

The single largest design decision facing the project team was where to build the 27,000-square-foot addition, which would provide a public entrance and visitor center, include additional meeting spaces for the legislature, and provide a café and other amenities. According to Schaar, state representatives were adamant that no major structure be added to Capitol Square. Therefore, the client first suggested a small, detached entry pavilion on the north side of the building, through which the public would descend to an underground visitor center extending under the original structure. From here, the public could ascend into Jefferson's capitol.

But such a scheme would have required underpinning—incrementally removing existing soil beneath bearing walls and replacing it with structural elements. This sequential process can result in nonuniform shifts in the foundations and can subsequently lead to damage to the building fabric above. "Underpinning represents significant risk," says Mettam. It is also a very expensive process. Entering the complex from

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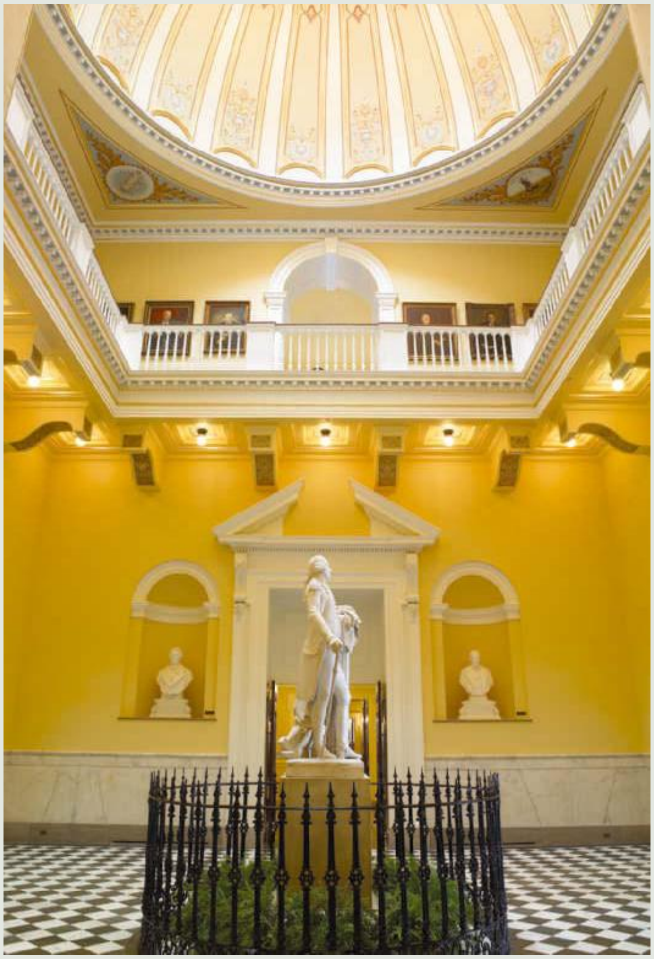
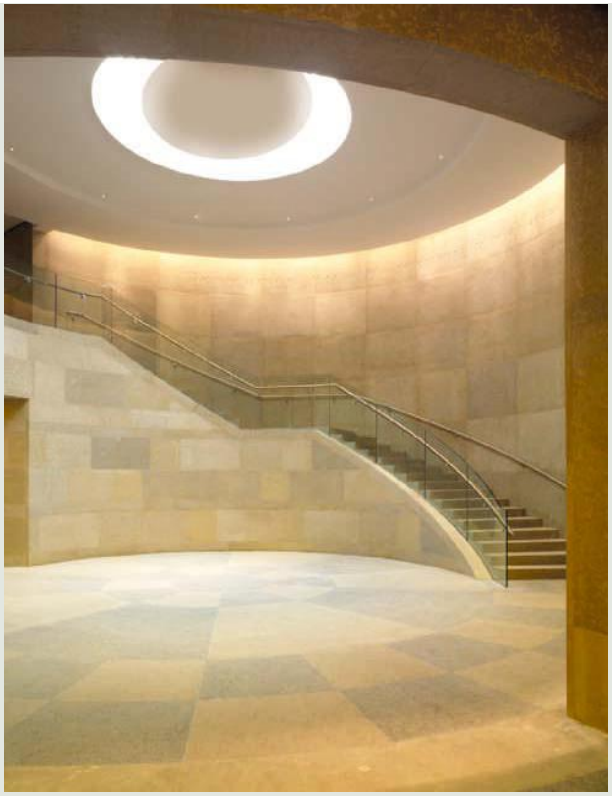




At the center of the original building is a balconied, domed, and skylit rotunda (left). A statue of George Washington, by French Neoclassical sculptor Jean-Antoine Houdon, has occupied the center of this impressive space since 1796. To enter the Jeffersonian building from the underground extension, visitors ascend a grand staircase (above) that circles the perimeter of a new domed space. Although this rotunda echoes the original, it employs a modern architectural vocabulary and a different palette of materials.

PHOTOGRAPHY: © TOM CRANE

east and west would have required similar structural gymnastics.

Aware of underpinning's associated risks and costs, Skarmeas proposed a below-ground visitor center extending from an entrance at the bottom of the hill, at the southern edge of Capitol Square. Visitors would travel through gradually ascending spaces to a rotunda connecting the extension to the original building. The scheme was consistent with the original architect's intention. "Jefferson designed the building to be a temple on the hill, to be viewed and approached from the riverbank. Everything flows from that," explains Skarmeas.

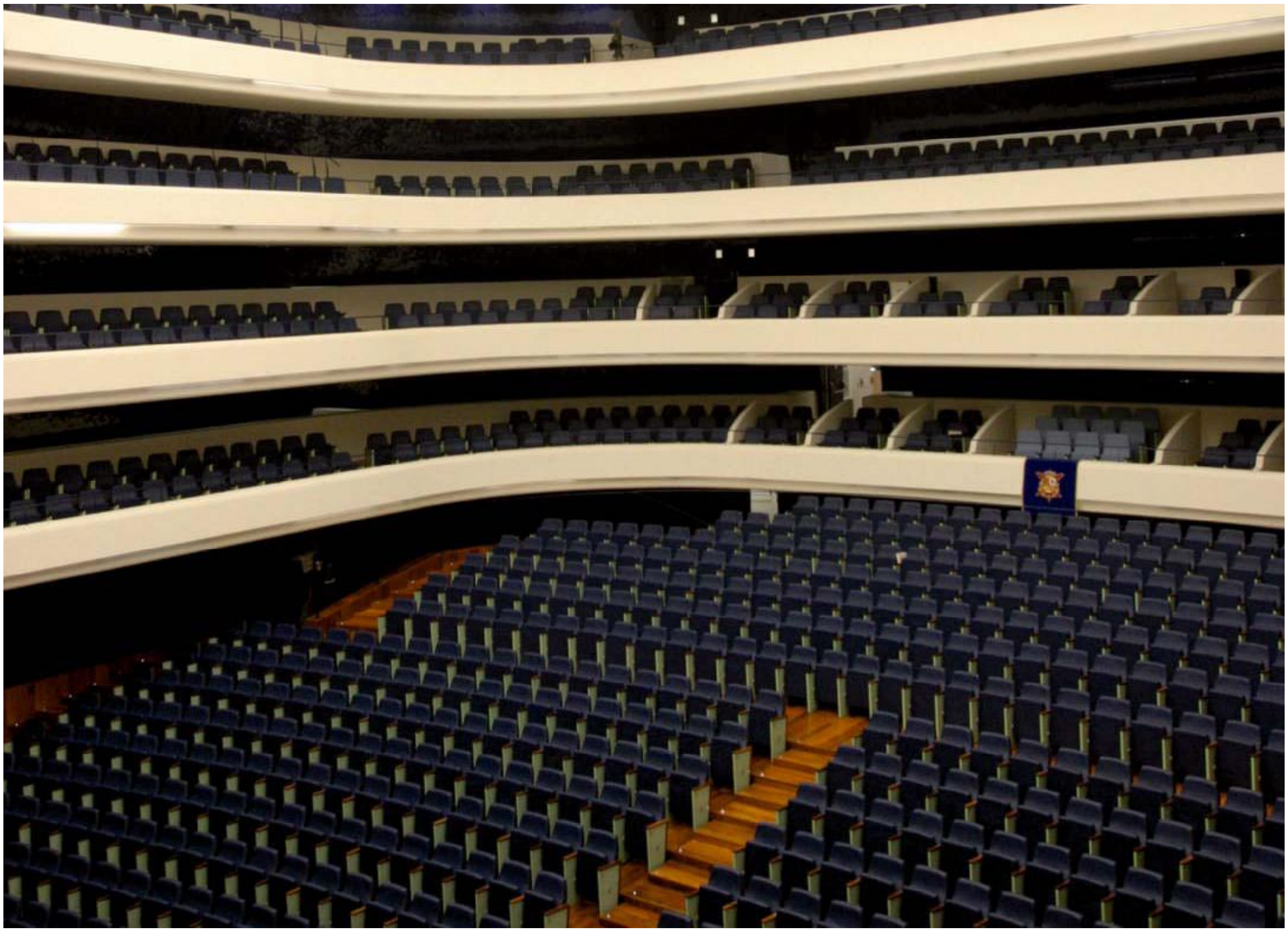
Although such a scheme would require no underpinning, engineers needed to support the original foundation while the immediately adjacent area was excavated. URS Corporation's geotechnical division tested the soil and predicted its behavior, and Silman Associates analyzed stresses the might develop in the building itself. "URS was looking at the bowl of Jell-O, and we were looking at what was sitting on top of it," says Mettam.

The two firms collaborated with the rest of the design team to develop a safe and effective way to dig next to the historic landmark. First, they had to improve the soil along the north edge of the excavation site, adjacent to the existing foundation wall and under the portico steps. They decided on a process called jet grouting that uses a drilling rod to insert engineered grout slurry into the ground and thoroughly mix it with the soil. With this technique, contractors created columns of stable, solidified soil extending 21 feet below grade. In addition, they installed ports adjacent to all of the portico's perimeter columns so that compensation grouting could be injected into the soil directly beneath the footings if the historic foundation needed to be releveled at any time.

JEFFERSON DESIGNED THE CAPITOL AS A TEMPLE ON THE HILL, TO BE VIEWED AND APPROACHED FROM THE RIVERBANK.

Subsequently, they built a diaphragm to the south of the jet grouting area. Also known as a slurry wall, it relies on the slurry trench technique, in which short, discontinuous trench sections are excavated and filled with a mudlike substance that maintains the form of the trench and, therefore, the stability of the surrounding soil, but does not harden. A cage of reinforcing steel is dropped into each section, and concrete is poured. The heavier concrete displaces the slurry and cures. The process is repeated for the intervening sections in order to create a continuous retention wall.

As excavation work progressed, the contractor temporarily anchored this wall with a system of tiebacks grouted into stable soil well



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beyond the excavation's zone of influence. Once the framing structure of the extension was completed, they released the tension on the tiebacks.

During foundation and site work, a real-time instrumentation system monitored building movement in three dimensions while inclinometers measured lateral movement in the diaphragm wall and the jet grouting area. The data was collected, processed, and disseminated online so that team members could access it remotely. In particular, engineers closely watched for differences in the behavior of adjacent areas. "The real risk of damage is not from absolute values of settlement, but from differential settlement," says Mettam. Fortunately, movement stayed within acceptable limits.

A diminutive temple on an estate near Staunton, Virginia, provided the model for the visitor center's public entrance.

The finishing touch

Designers easily decided that the visitor center itself should be contemporary in style to clearly distinguish it from the historic building, as is the preference in preservation circles. But determining the style of the new entrance at the bottom of the hill was not as clear cut: Should it reflect the Modern extension or the Classical original?

At the suggestion of Loth, the architect decided to use the Bremo Estate, near Staunton, Virginia, as a model. There, situated on a hill, is a Palladian-style house, designed and constructed around 1820 by one of Jefferson's skilled builders. A miniature Classical monument, known as Temperance Temple, designed by noted architect Alexander Jackson Davis, was built on the grounds of the estate in 1841, but at a lower elevation than that of the house.

The logic was compelling. As Skarmeas explains, most of the buildings that surround Richmond's Capitol Square are Classical in expression, so a pure Modernist entry would seem out of place. Bremo's diminutive temple was modeled after a prototype in Athens—home of the Parthenon, the first temple on a hill. And it stands in relation to its Jeffersonian-styled house much in the same way that the new public entry should stand in deference to the capitol. The temple at Bremo "had the proper pedigree, going all the way to Athens, without copying a Thomas Jefferson building," says Loth.

Set at an angle to the street grid to create a small irregularly shaped plaza, the complex's new public entry features Doric instead of the capitol's Ionic columns, a simplified entablature without a pediment, and a pale yellow hue. It clearly welcomes visitors and prepares them for their journey, but in no way competes with their ultimate destination. ■

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

INSTRUCTIONS

- **Read the article "A Revered Jeffersonian Landmark Renewed" using the learning objectives provided.**
- **Complete the questions below, then fill in your answers on the next page.**
- **Fill out and submit the AIA/CES education reporting form on the next page or download the form at archrecord.construction.com to receive one AIA learning unit.**

QUESTIONS

1. The Virginia State Capitol started which American architectural movement?
  a. Classical Revival
  b. Gothic Revival
  c. Queen Anne
  d. Victorian

2. Jefferson designed the capitol after which monument?
  a. the Pantheon in Rome
  b. Versailles in Paris
  c. the Maison Carrée in Nîmes
  d. Hampton Court in London

3. Why was Jefferson's design for the capitol not followed exactly?
  a. the workmen did not know how to read the drawings
  b. the work started under a different architect
  c. the work started before the drawings arrived
  d. the building had been designed for a different site

4. Which factor caused the building's moisture problems?
  a. poorly detailed roof drains
  b. an improperly functioning perimeter drainage system
  c. sealant applied to exterior stucco
  d. all of the above

5. Which strategy did the design and construction team not employ to combat the moisture problems?
  a. application of a sealant to the exterior stucco
  b. replacement of the roof drains
  c. installation of a new perimeter drainage system
  d. overhaul of the mechanical system

6. Which time period was chosen for restoration of the interior's basic appearance?
  a. 1807
  b. 1906
  c. 1785
  d. 1865

7. Designers decided against an underground expansion on the north side of the capitol and extending under the existing structure because of which?
  a. such a scheme would have required underpinning
  b. it could have caused the foundation to shift
  c. it would have been expensive
  d. all of the above

8. The design and construction team decided to use which method to improve the soil surrounding the excavation?
  a. adding sod to the soil
  b. adding clay to the soil
  c. inserting engineered grout slurry into the soil
  d. inserting reinforcing steel into the soil

9. Which operation did contractors not perform when they built the diaphragm wall along the south side of the jet grouting?
  a. excavate short discontinuous sections of trench
  b. create a mudlike substance known as slurry
  c. temporarily anchor the wall with tiebacks
  d. underpin adjacent foundations

10. Which building was chosen as the model for the design of the public entrance to the capitol?
  a. a Palladian style house
  b. Monticello
  c. Temperance Temple
  d. the Parthenon

AIA/ARCHITECTURAL RECORD CONTINUING EDUCATION

Program title: "A Revered Jeffersonian Landmark Renewed," Architectural Record (06/07, page 167).

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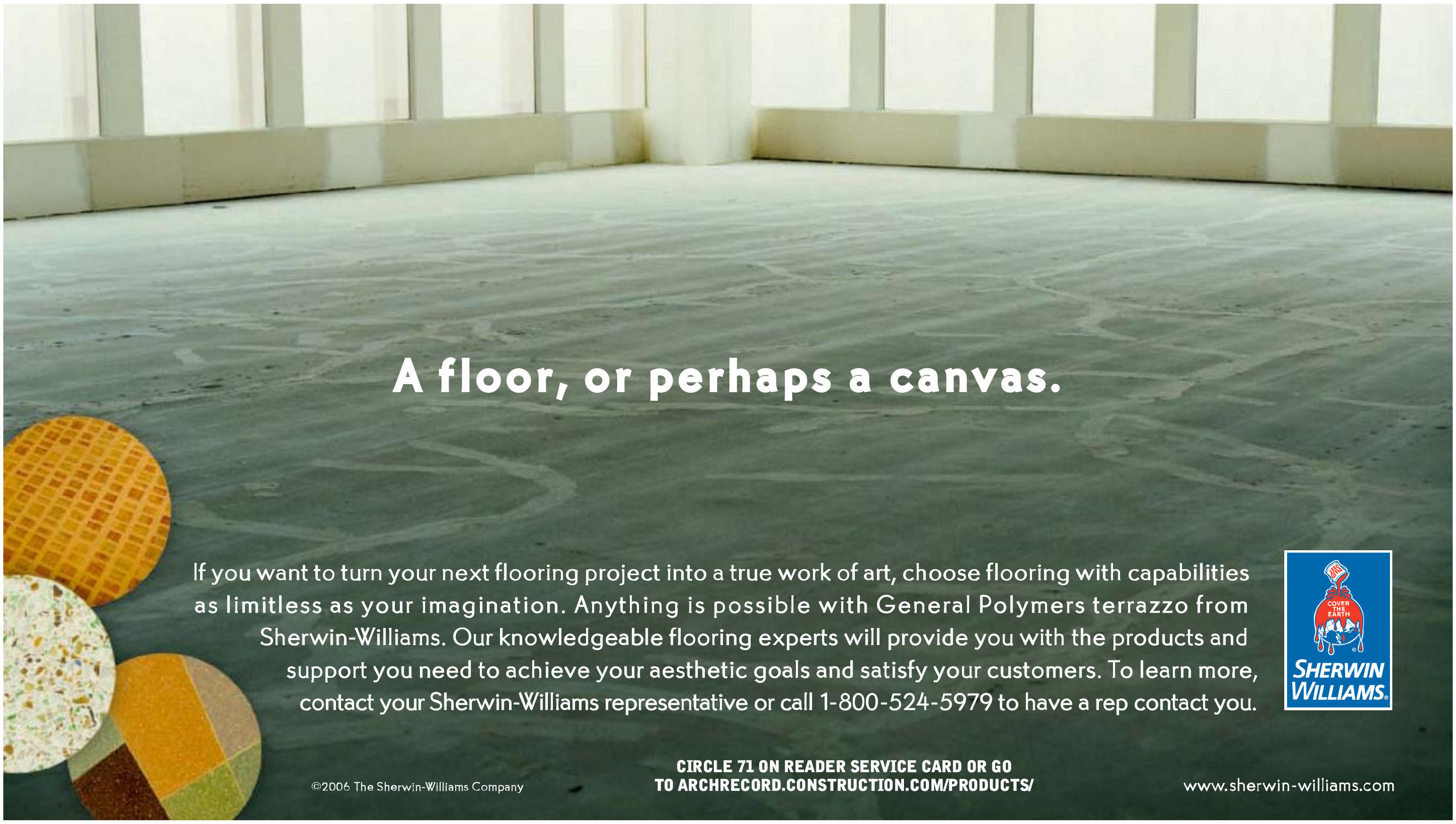

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A Temple to Transparency Rises in Athens

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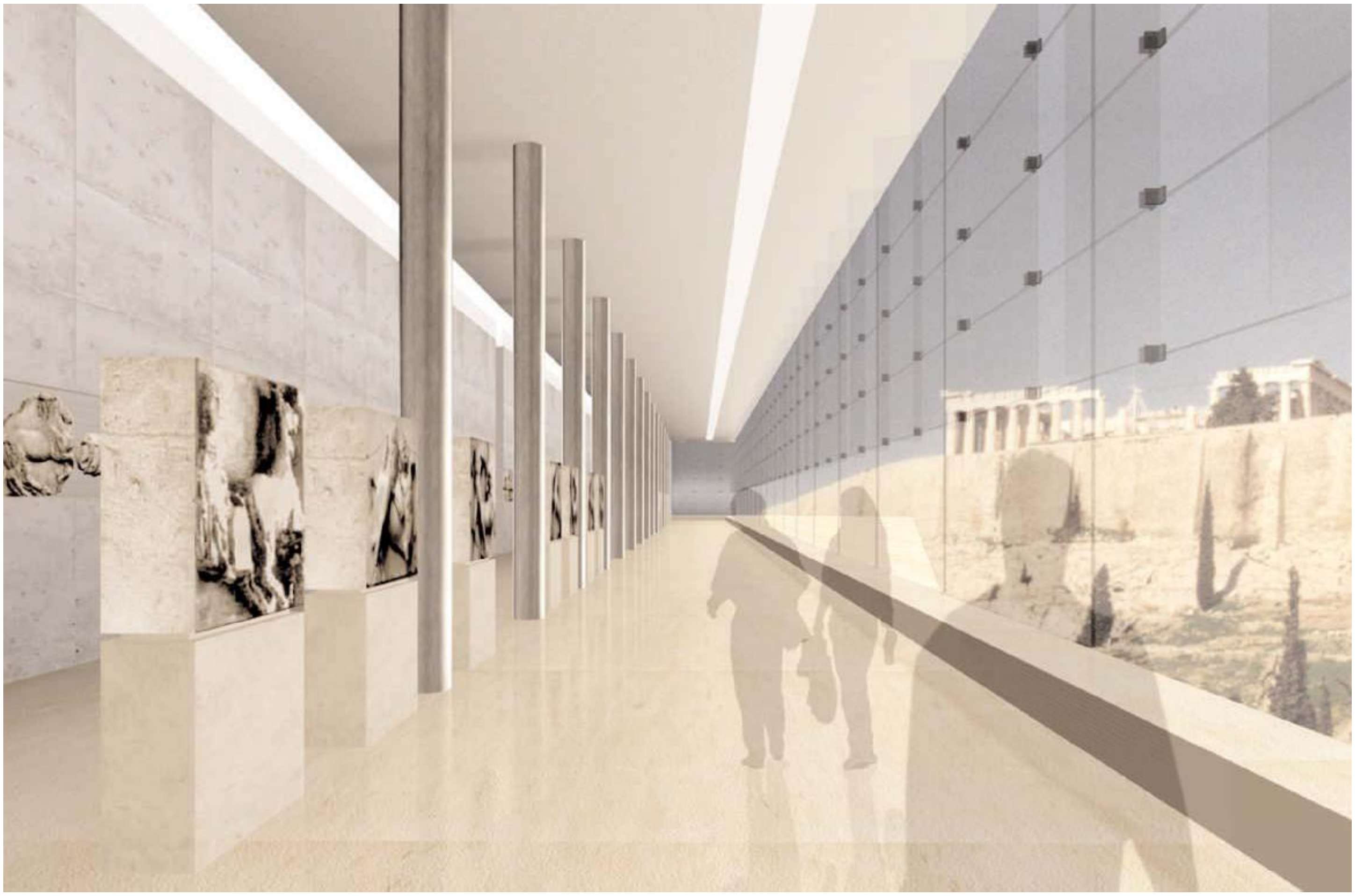
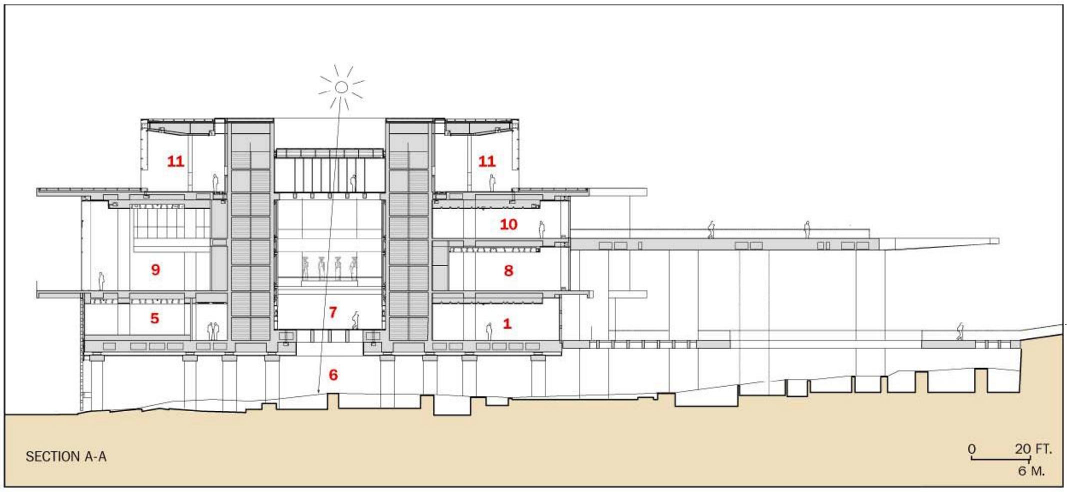


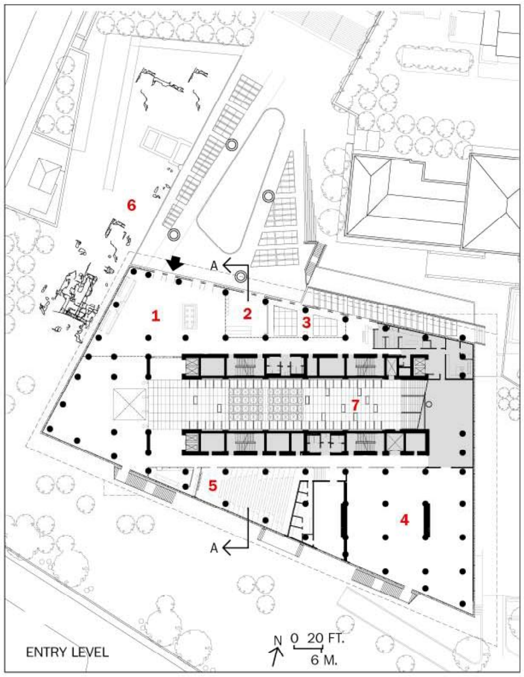
At the top of the museum, a daylight-filled gallery (above and right) providing views of the Parthenon and Athens, will be devoted to display of the ancient temple's surviving marbles.

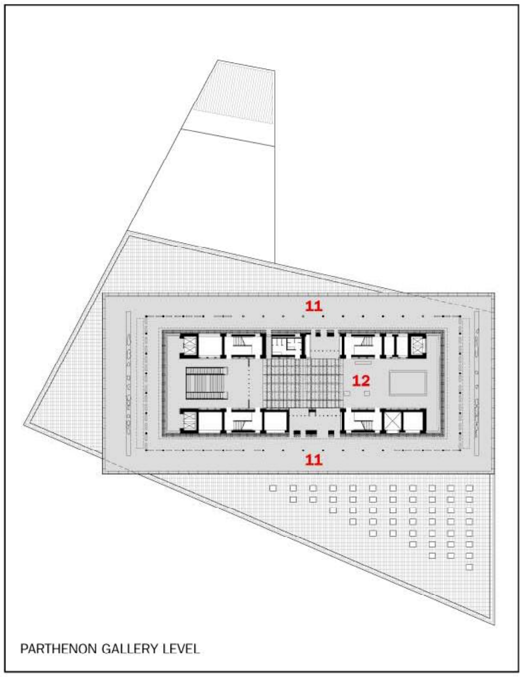
By Joann Gonchar, AIA

At the foot of the Acropolis in Athens, a politically charged and technically complex project first envisioned more than two decades ago is finally nearing completion. The building, the New Acropolis Museum (NAM), will replace a decaying 19th-century predecessor that holds artifacts from the Acropolis and the Parthenon. The new structure was also conceived to serve as an enticement to various institutions in other countries to return to Greece friezes and fragments of the Parthenon held in their collections. In particular, NAM officials are hoping for return of the marble sculptures removed in the 19th century by Lord Elgin, the British ambassador to the Ottoman Empire, and taken to England, where they have been on display since 1816.

Designed by New York City–based Bernard Tschumi Architects, with local architect Michael Photiadis, the 226,000-square-foot NAM is on track for completion of construction late this summer. However, the







1. *Lobby*
2. *Shop*
3. *Cafeteria*
4. *Temporary exhibits*
5. *Auditorium*
6. *Excavations*
7. *Slopes findings gallery*
8. *Post-Parthenon Gallery*
9. *Archaic Gallery*
10. *Restaurant*
11. *Parthenon Gallery*
12. *Athena Nike Gallery*

The building is organized around a central skylit atrium space (below). At its base, a glass ramp leads museum visitors from the lobby to the galleries on the second level and allows light from above to penetrate the excavations preserved below.

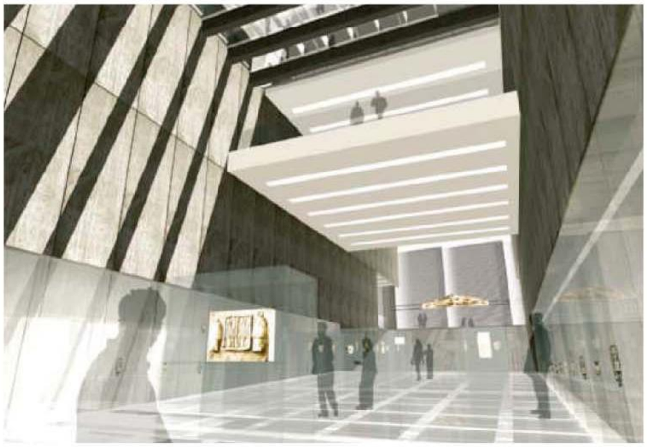
IMAGES: COURTESY BERNARD TSCHUMI ARCHITECTS

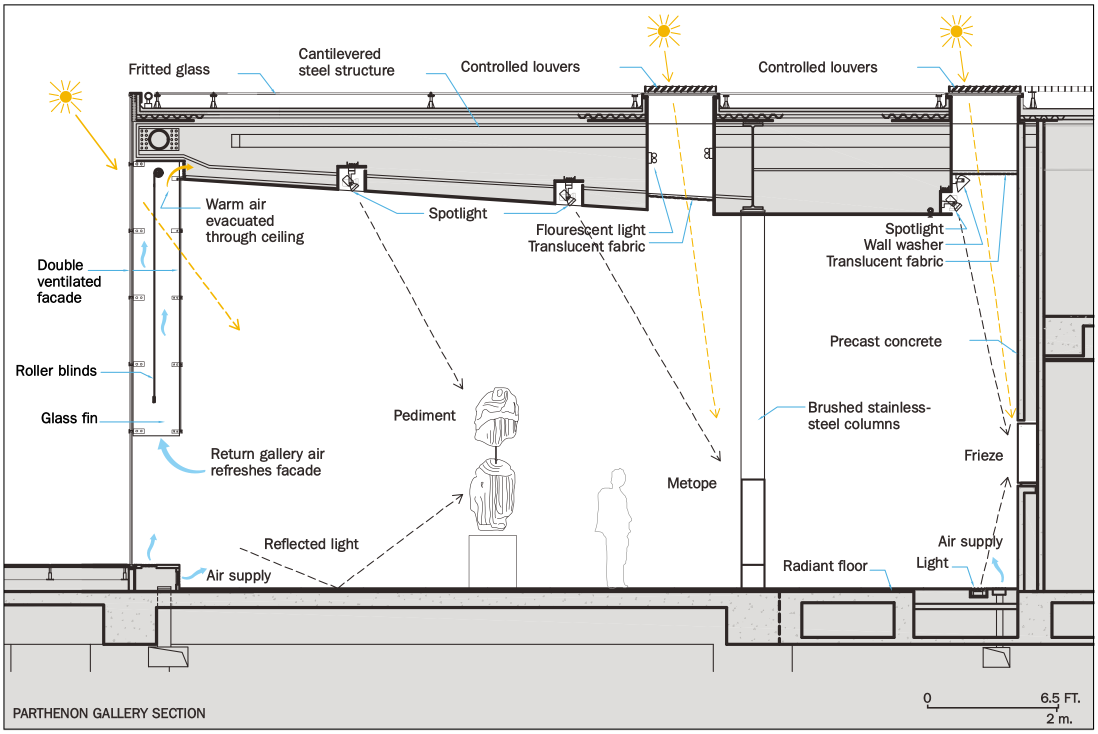
route to this point has been far from straightforward. In the late 1990s, officials scrapped a competition-winning scheme after remnants of late Roman and early Christian settlements were found on the site.

Preserving and providing visitor access to these ruins subsequently became a key programmatic requirement of the competition, won by Tschumi in late 2001. But even after Tschumi's selection, the project encountered many obstacles, including legal challenges from neighborhood residents, archaeologists, and politicians, and a change of contracting firms after construction was already under way.

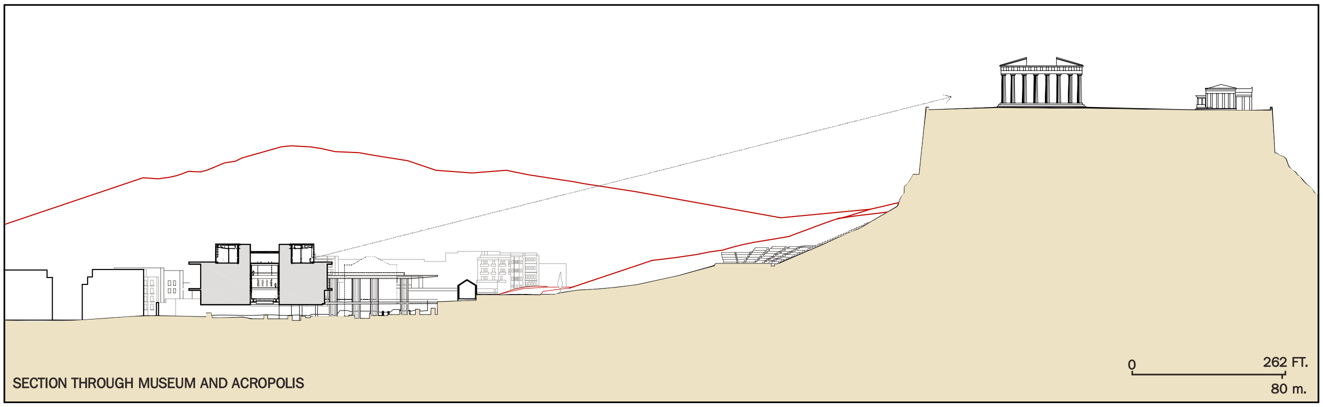
More surprises

In the summer and fall of 2002, when archaeologists discovered even more ruins on the 5.68-acre site, the design team was forced to move and rotate the foundation structural grid. Although design was still in the schematic phase, the process of resolving the conflicts between the excavations and the new building was "traumatic," requiring negotiation of each column




Fritted glass
Cantilevered steel structure
Controlled louvers
Controlled louvers
Warm air evacuated through ceiling
Spotlight
Flourescent light
Translucent fabric
Spotlight
Wall washer
Translucent fabric
Double ventilated facade
Precast concrete
Roller blinds
Glass fin
Pediment
Brushed stainless-steel columns
Return gallery air refreshes facade
Frieze
Metope
Reflected light
Air supply
Radiant floor
Light
Air supply
0
6.5 FT.
2 m.
PARTHENON GALLERY SECTION

A double facade (left) helps maintain comfortable temperatures in the Parthenon Gallery while providing daylight and views to the ancient temple. Skylights, along with spotlights, wall washers, and discreetly placed fluorescent fixtures help achieve optimum lighting conditions for viewing the sculptures.


0
262 FT.
80 m.
SECTION THROUGH MUSEUM AND ACROPOLIS

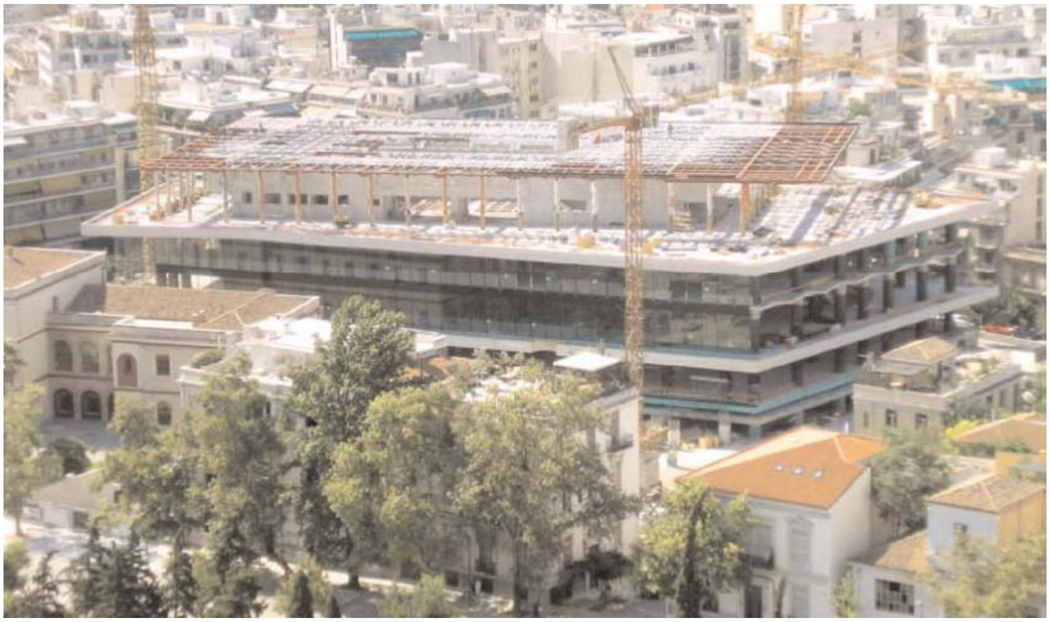
location, says Joel Rutten, Tschumi Architects' project director.

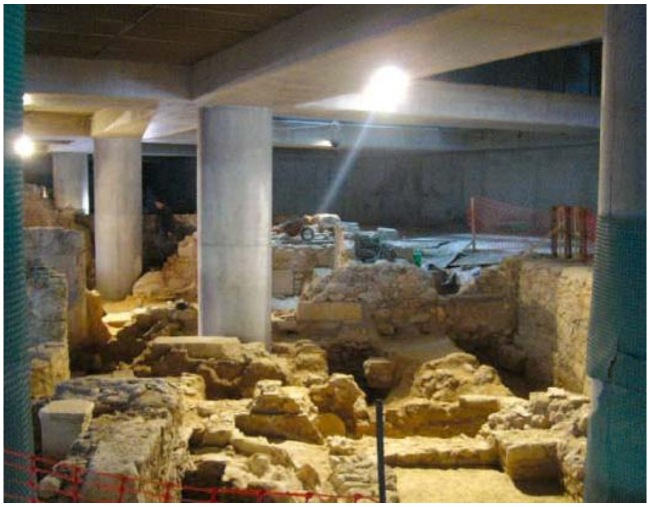
When NAM opens next spring, after a 10-month-long installation period, visitors will enter by way of a bridge that crosses over an area of excavations at the northwest portion of the site. Then, in an ascent that mimics the climb up the Acropolis, they will travel from the lobby, through exhibition spaces organized in a chronological sequence around a skylit atrium, to the top of the four-story building. There, surviving Parthenon frieze elements, of which Greece currently possesses about half, will be displayed, surrounded by a glass-enclosed court. The dimensions and orientation of the space will replicate the 2,500-year-old temple's cella.

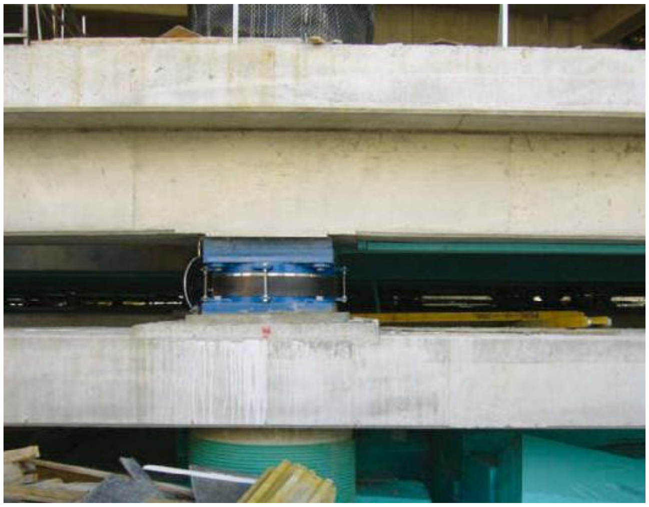
This top-floor Parthenon Gallery, supported by a steel post-and-beam cantilevered structure, sits on top of a three-story reinforced-concrete base. The lower floors, trapezoidal in plan to maximize the constricted site, rest on a field of 43 pilotis and seem to hover over the excavations.

Sandwiched between the pilotis and the lobby level is a system of seismic isolators. Because they minimize the transfer of ground motion

The Parthenon Gallery's steel structure sits atop a three-story concrete base (right). The whole is raised above the excavations on pilotis (below left). Seismic isolators are sandwiched between the grade floor structure and the lobby level (below right and opposite, bottom).







to the structure above in the event of a temblor, the isolators allowed designers to create a more transparent and open museum than they otherwise could have in earthquake-prone Athens. "We did not have to encumber the building with many large walls," says Leo Argiris, a principal in the New York City office of Arup. His firm, with Athens-based ADK, was the project's mechanical and structural consultant.

Climate and clarity

Transparency, especially that of the 19-foot-tall glass-enclosed Parthenon Gallery, is one of the building's defining qualities. Here, visitors will be able to view the marbles in daylight and also see, about 1,000 feet away, the ancient temple where they were originally installed. Obviously, creating a glass box in a climate where temperatures can reach 120 degrees was not an easy task.

To mitigate heat gain in the brutal climate, the design team created a ventilated facade for the Parthenon Gallery. The double skin, hung from the steel roof structure, has an outer layer of double-glazed low-iron glass with a glare-cutting frit. The density of the pattern decreases from 100 percent near the ceiling to zero at eye level, so that views of the Parthenon and Athens are not obstructed. The inner layer, which is suspended about 8 feet above the floor, is made of single-glazed laminated low-iron glass. Separating the two layers are 26-inch-wide vertical glass fins with roller blinds installed between each to further control glare.

The gap between the glazed surfaces is part of a displacement ventilation system. Cool air supplied at the floor is drawn through the cavity and evacuated at the top. A chilled slab also helps maintain comfortable gallery temperatures. The arrangement keeps the facade and ceiling free of distracting mechanical apparatus, explains Raymond Quinn, Arup principal. "Nothing detracts from the view toward the marbles or the Parthenon." ■

For this and other technology stories, go to architecturalrecord.com/tech/.

Technicalities

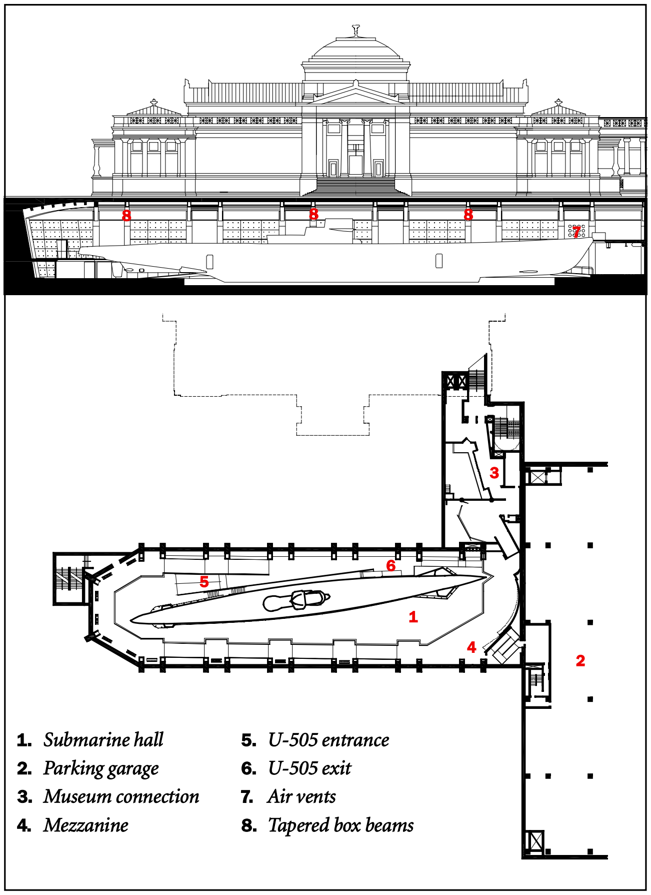
Up periscope and down building in Chicago

By Russell Fortmeyer

Nearly 100 yards lie between Chicago's Museum of Science and Industry and Lake Michigan. So when Goettsch Partners began the design of a subterranean hall to exhibit the museum's German-made U-505 submarine, the architects found themselves in the unlikely—and ironic—position of fighting to keep the lake's water from submerging the vessel.

"It's possible the lake could rise or we could get a 500-year rain," says Michael Kaufman, AIA, a partner at Chicago-based Goettsch. "So we have drain tiles around the perimeter and twin sump pumps with diesel generator backup." Water aside, the land-based journey of the U-505 from the 1944 capture by the Allies off the coast of West Africa to a new basement adjacent to the museum involved a substantial amount of planning.

Acquired by the museum in 1954, the 700-ton submarine had for years rested outside, where it had seriously deteriorated. The museum brought Goettsch on board to design the over-40-foot, below-grade exhibition hall and connect it to its original Charles Atwood–designed 1893 building through a nearly 80-foot-long underground hallway (the plaster building was actually reconstructed in stone in 1933). The new splayed, concrete structure, designed to maximize resistance to the compressive forces of the surrounding earth as well as to make the space appear larger, has the feel of a submarine "pen," which Kaufman says was intentional, since the Germans launched submarines from hidden pens for secrecy.

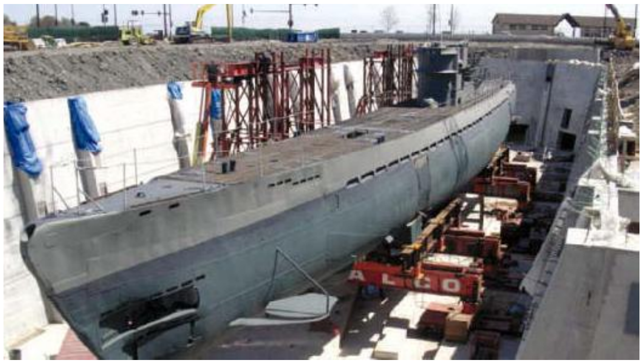


1. *Submarine hall*
2. *Parking garage*
3. *Museum connection*
4. *Mezzanine*
5. *U-505 entrance*
6. *U-505 exit*
7. *Air vents*
8. *Tapered box beams*

Contractors placed the 270-foot-long sub on 18 sets of dollies before slowly moving it parallel to the new 85-by-315-foot "bathtub" at the museum's northeast corner. The sub—freshly restored—was then "launched" onto a forest of dense logs constructed inside the future hall. Workers would jack up the sub, remove some logs, and then carefully lower it. Finally, after two weeks, they nestled the U-505 into place on a 16-inch foundation slab. Only then could the contractor install the 85-foot-long tapered-steel box beams and close up the space.

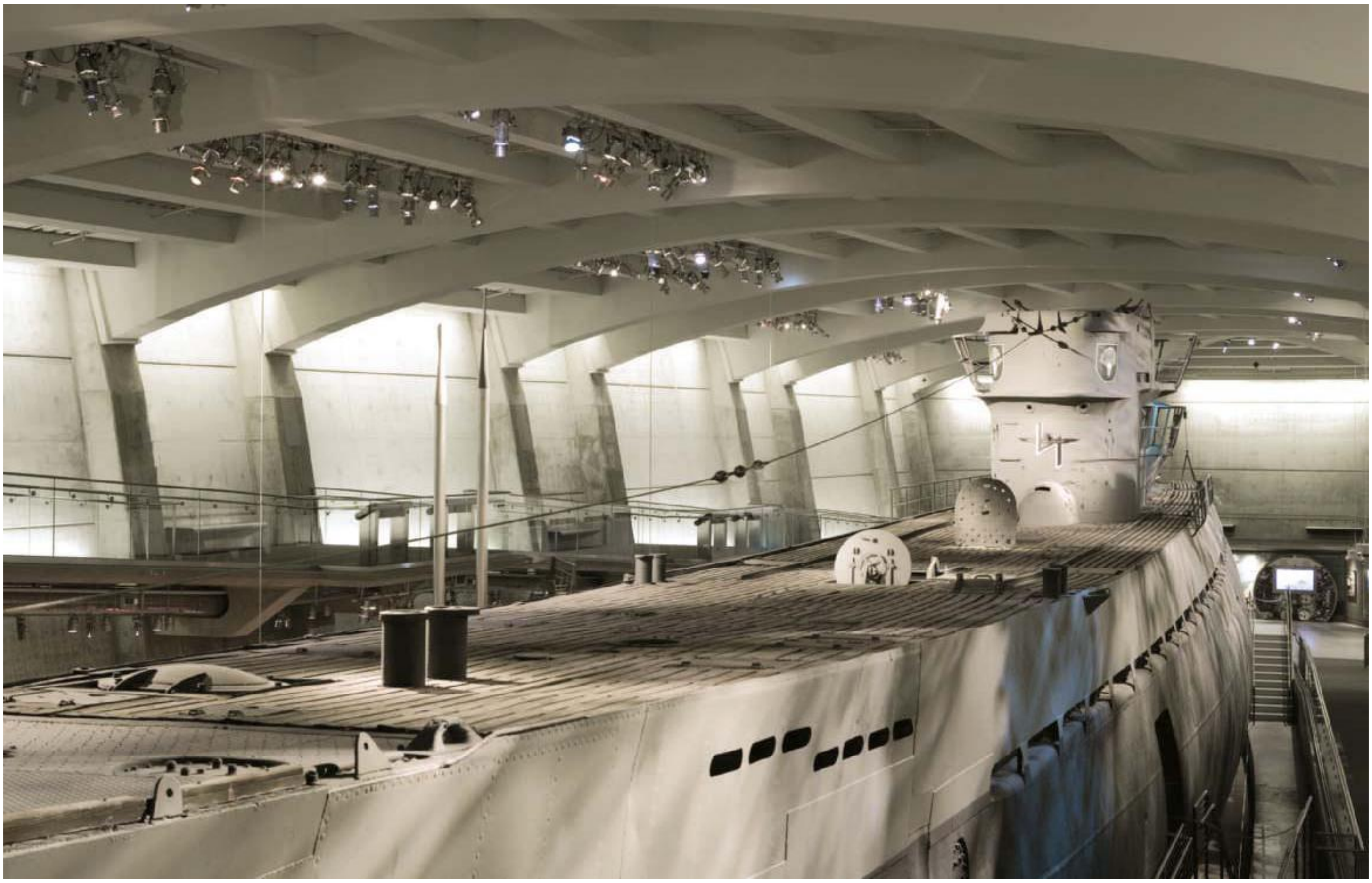
The finished hall, kept clean by integrating mechanical systems into the canted walls and placing other services in a mezzanine ceiling, has proved popular with visitors. Kaufman says museum attendance spiked 20 percent in 2006, the first year it opened. Although Kaufman admits he and his staff were motivated in part by their love of the classic 1981 Wolfgang Petersen submarine film *Das Boot*, the hall conveys anything but a sense of claustrophobia. ■

Once lowered into place, contractors installed a steel structure and deck to cover the hall (right), which is 30 feet below Lake Michigan's water level.

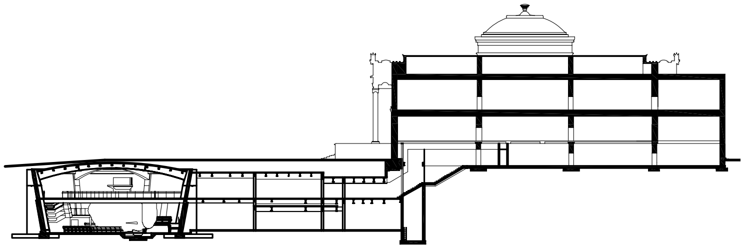


On the Web: To rate this project and learn more, go to ***architecturalrecord.com/tech/***.

PHOTOGRAPHY: © MARK BALLOGG (TOP AND OPPOSITE, TOP); JON MILLER (OPPOSITE, BOTTOM TWO); COURTESY GOETTSCH PARTNERS (BOTTOM)



The boxed beams taper from 24 inches at the center to 54 inches at the sides. The canted, cast-in-place concrete walls suggest the space is larger than its 27,000 square feet.



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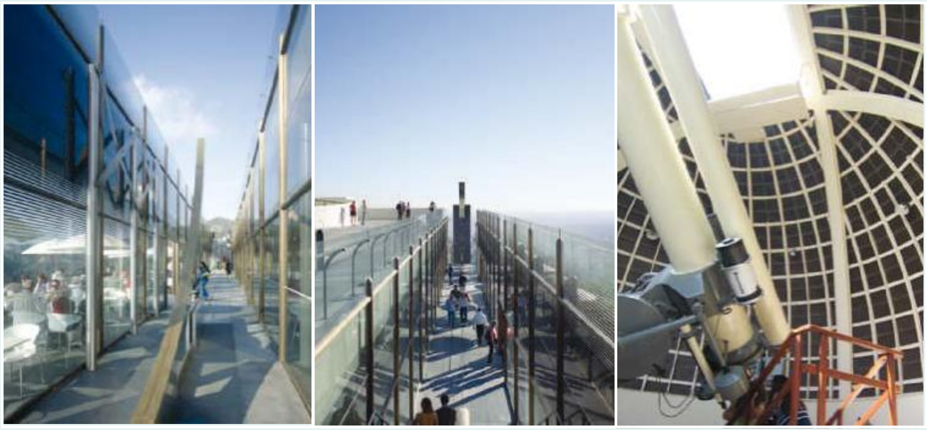
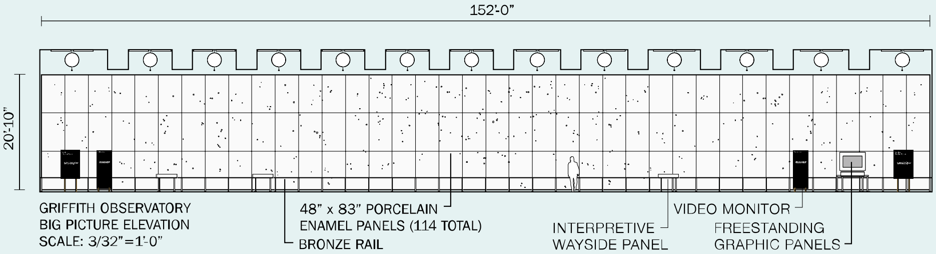
Tech News & Reviews

The cosmic ballet of the Griffith Observatory





JUNE
Gemini

Architects restored the Griffith's 12-inch Zeiss optical telescope enclosure (top right), while C&G Partners and Carpenter Norris Consulting collaborated on the "noon mark" (top left and middle). The noon mark indicates the day of the year (left). The *Big Picture* (above) illustrates a slice of the galaxy.

Astronomy qualifies as one of those rare fields that have flourished without the burden of producing mountains of physical evidence for inspection. Its researchers record, hypothesize, theorize, and render cosmic spectral occurrences, free from the sorts of challenges that faced C&G Partners as the firm undertook the complete redesign of the exhibitions in Los Angeles's recently renovated and expanded Griffith Observatory.

"People are only there for a few minutes, so we tried to emphasize things that were grand and inspiring, since you can't get a master's degree from an exhibit," says C&G's partner in charge, Jonathan Alger.

Although a few exhibits remain from the originals, including the popular Tesla coil and Foucault pendulum on the first floor, C&G reconceived the observatory around three main exhibition halls that focus on basic astronomy, the technology of observation, and deep space.

Chief among the new installations, the so-called *Big Picture*, located in the basement expansion designed by Pfeiffer Partners (see page 154), takes a snapshot of the universe equal to the area of Albert Einstein's right index finger held at arm's length and blows it up to an image 152 feet long and 20 feet high.

Printed and then baked on porcelain enamel panels installed along the north side of the Depths of Space gallery, the six-color-process photograph represents a detail of the Virgo Cluster of galaxies, which Alger says appears as the most visually dense cluster noticeable from the Northern Hemisphere. An astronomer at the nearby California Institute of Technology shot the picture, which took two months to process. C&G estimates the picture is the largest astronomically accurate image ever produced. A fly-through animation on a television nearby indicates to viewers the three-dimensional properties of the picture.

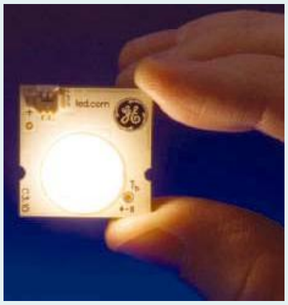
Historically, the Griffith's role as a public institution for astronomy has expressed itself instrumentally, with aspects of the building operating as devices for understanding the sky. The building's three domes house a planetarium, an optical telescope, and a solar telescope, respectively. Pfeiffer and Levin & Associates Architects restored these spaces, including the mechanisms that open the two smaller domes to allow observation.

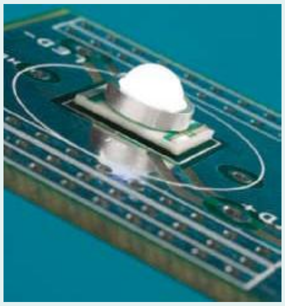
Additionally, Pfeiffer and C&G engaged designers James Carpenter and Davidson Norris for an exterior installation of a "noon mark" in the Gottlieb Transit Corridor along the basement expansion's exposed western elevation. This device, located along a north–south axis, directs the noontime sunlight through a stainless-steel aperture and onto a bronze strip marked with the annual calendar. Aside from precisely telling visitors the day of the year (the instrument was produced by fabricators that make components for the nearby Jet Propulsion Laboratory), a fiber-optic sensor will eventually transmit light to an adjacent LED map of constellations that will indicate the position of the sun in the galaxy. "These stars are typically hidden by the sun," says Norris. Since the sun hits the same mark two different times per year, Norris says they plan to "install a big switch to transfer between the two halves of the year." *Russell Fortmeyer*

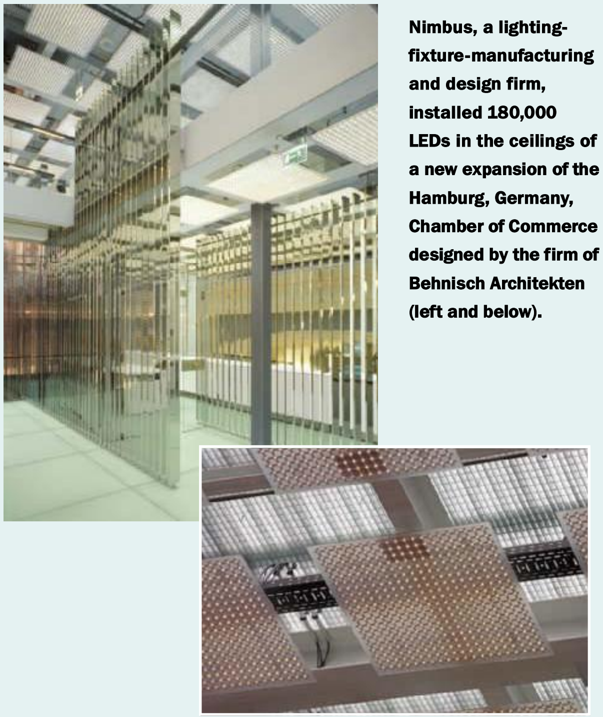
PHOTOGRAPHY: © RUSSELL FORTMEYER (TOP RIGHT AND BOTTOM); TIM GRIFFITH (TOP MIDDLE AND LEFT)

LEDs in Hamburg (and Lightfair)

GE's Tetra PowerGrid (right) aims to replace fluorescent lamps, while the company's VIO LED (below left) is for conventional applications. Cree is attempting to make its white LED (below right) an ANSI standard.







Nimbus, a lighting-fixture-manufacturing and design firm, installed 180,000 LEDs in the ceilings of a new expansion of the Hamburg, Germany, Chamber of Commerce designed by the firm of Behnisch Architekten (left and below).

Although the color and lumen output of white LEDs has improved markedly in the last few years—manufacturers exhibited a plethora of new LED products at last month's 2007 Lightfair International in New York—their use has often been relegated to special effects and one-off installations that capitalize on the technology's novelty.

Nimbus, a Stuttgart, Germany–based lighting manufacturer, collaborated with Stuttgart architects Behnisch & Partner on an installation of 180,000 LEDs to light five new floors of offices for the Chamber of Commerce in Hamburg, Germany (see related story, page 128). The LED panels, uniformly staggered across the ceiling plane, modulate light output between 10 and 50 footcandles, depending on the activity underneath, and can shift between colors to add play to what could have been more static spaces.

Some manufacturers place phosphor-coated domes over blue lamps to produce pure white light in much the same way phosphors are used with fluorescent tubes. Others mix blue, green, and red lamps to make white and any other color. General Electric Lumination (GE) introduced several products using white LEDs at Lightfair, including an easily installed grid light for backlighting signage that GE argues will offer longer lamp life (up to 11 years) and increased energy efficiency.

Greg Merritt, director of corporate marketing for LED manufacturer Cree, says a new generation of white LEDs is lasting as long as 50,000 hours while still maintaining a lumen output of 70 percent capacity, although that is not a guarantee. The ubiquity of white LED light-fixture applications has tended to obscure the fact that the technology, which suffers from high cost and intense heat output, has many critics among lighting designers, architects, and researchers. As noted in the January/February 2007 issue of *Professional Lighting Design*, recent research on the color output under cool blue light, such as that found with white LEDs, suggests adverse health effects like increased stress levels and higher sex hormones for occupants under prolonged exposure. The phosphors used in many bluish-white LEDs absorb ultraviolet light (invisible UV light is just to the left of blue in the color spectrum), so while your body's reaction to blue light is to prepare for UV absorption, the lack of UV upsets this norm.

That the lighting industry has thus far not developed a standard for rating white LEDs has further hampered the industry, although Cree has been working to establish its white LED lamp characteristics as an American National Standards Institute–approved standard. Designers may find it difficult to distinguish the qualities of GE's new VIO LED, which uses a phosphors-coated lens on a violet-chip base to maintain a stable color, versus Cree's Warm White XLamp LEDs, which uses different phosphor coatings to produce similar effects. Phillips Lumileds, Nichia, and Osram-Sylvania, among other companies, also produce versions of white LEDs.

"When you tell the whole story, LEDs don't look as good as you would expect," cautions Ian Ferguson, a professor with the School of Electrical and Computer Engineering at the Georgia Institute of Technology. Ferguson, who addressed an audience at Lightfair on the intricacies of the emerging white LED market, says excess heat and inconsistent chromaticity (color rendering) plague the market, while some white LEDs lag fluorescent lamps in operating life. *R.F.*

PHOTOGRAPHY: © HANS JURGEN LANDES (BOTTOM TWO);
COURTESY GE (MIDDLE LEFT AND TOP); CREE (MIDDLE RIGHT)

Small Business

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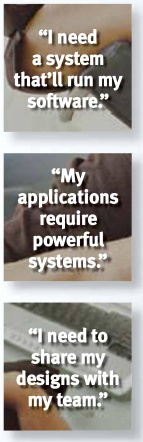
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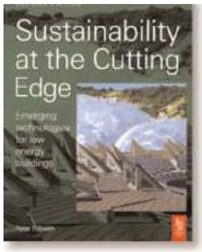
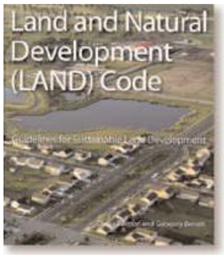
Failure, sustainability, and tools

This month, we look at two books that address sustainable-design topics, one book that artfully looks into the history of design tools, and another on materials failure. Surprising evidence of the need for architects to specialize in particular technologies and processes emerges from all four books.

failed stone
patrick loughran



Tools of the Imagination



Failed Stone: Problems and Solutions with Concrete and Masonry, *by Patrick Loughran. Basel, Switzerland: Birkhäuser, 2006, 152 pages, $79.*

Geared toward architects and full of gorgeous pictorials and details of well-known Modern and contemporary architectural projects, *Failed Stone* provides just enough information for the armchair materials specialist without becoming weighted down by excessive explanations. The book explores such failure concepts as thermal hysteresis (think of this as warping due to exposure), progressive collapse and blast design, efflorescence, discoloration, and leakage, while also focusing on design approaches and material attributes.

For example, the chapter on surface effects, which begins with a discussion of the nonuniform color and texture of the self-compacting concrete used for Zaha Hadid's 2005 Phaeno Science Center in Wolfsburg, Germany, includes a concise explanation of various finishing treatments for concrete, as well as hints for avoiding problems.

Furthermore, Loughran concludes each chapter with lessons learned: in the chapter cited above, letting us know "concrete cracks." These lessons really just summarize key ideas, though the short chapters and fairly nontechnical explanations mostly speak for themselves. *R.F.*

Sustainability at the Cutting Edge: Emerging Technologies for Low Energy Buildings, *by Peter F. Smith. Oxford, U.K.: Architectural Press, 2007 (second edition), 171 pages, $49.95.*

Not quite a technical manual, *Sustainability at the Cutting Edge* lays out a fairly broad array of sustainable building technologies currently in use in architecture. It begins with a transcript of a lecture, "Climate Change and Sustainable Energy," by John Houghton, which places the sustainable revolution in context and lays out the usual retinue of dire environmental warnings.

Its main chapters—written with a decidedly European focus—scrutinize such topics as solar thermal power, low-energy cooling, geothermal energy, fuel cells, and photovoltaics. This information has a sell-by date, however, which precludes much of its value. The photovoltaic chapter, to cite one example, reads like a laundry list of the industry at the time the book was written. Five minutes on Google would probably return a more helpful overview of current issues.

But Smith also focuses on more exploratory opportunities for sustainable design, like wave and tide energy, a hydrogen economy, and micro-hydro, before concluding with short case studies on experimental projects such as Arup's BedZED in the United Kingdom. *R.F.*

Tools of the Imagination: Drawing Technologies from the Eighteenth Century to the Present, *by Susan C. Piedmont-Palladino. New York: Princeton Architectural Press, 2007, 128 pages, $29.95.*

One might expect *Tools of the Imagination* to be a catalog of beautiful but obsolete objects from a history of architectural drawing implements. But while it does document many ivory, brass, and mahogany artifacts, it is more ambitious.

The book, which grew out of the exhibition of the same name held two years ago at the National Building Museum, in Washington, D.C., investigates the relationship between the design process and the various tools that architects depend on. Although slender, the book covers much ground, from the history of the most prosaic of drawing implements—the pencil—to the impact of the computer, and especially building information modeling, on architectural practice and buildings themselves.

The publication is for the most part visually pleasing. However, one unfortunate aspect of it is the silver ink selected for the text. Although it does mimic graphite on paper, the print is challenging to read unless the book is held at just the right angle in just the right light. The effect is an annoying distraction from otherwise thoughtful and thought-provoking content. *J.G.*

Land and Natural Development (LAND) Code: Guidelines for Sustainable Land Development, *by Diana Balmori and Gaboury Benoit. Hoboken, New Jersey: John Wiley & Sons, Inc., 2007, 243 pages, $70.*

This book proposes a set of guidelines for ecologically sound land development reminiscent of the U.S. Green Building Council's LEED rating system. Exploring such topics as water conservation, stormwater management, and habitat restoration, it offers strategies for minimizing the disruption of development and assigns points based on potential benefits.

Architects, landscape architects, and planners should find *Land and Natural Development (LAND) Code* a thorough and accessible primer. The concepts are presented in straightforward language and illustrated with visually somewhat dry but otherwise helpful photos and diagrams.

One disappointment is that the book offers no suggestions for how its proposed rating system would be implemented or how compliance would be verified. Also, the last chapter is a missed opportunity. Although it presents many worthwhile projects that have successfully applied some of the concepts outlined elsewhere in the text, by applying the LAND Code checklist to some of these case studies, the book could have better demonstrated the system's potential. *J.G.*

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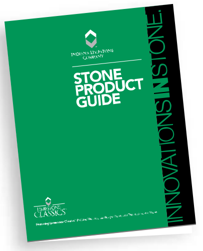

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Managing the massive amount of project-related e-mail generated on any given day can tie up an architect for hours. Among other features, the fourth edition of Newforma's Project Center addresses that by simplifying the process of archiving project-related e-mail, correspondence, and files onto project-specific file networks internally hosted on a firm's server. The software plugs directly into Outlook, where users can search e-mail and attachments, as well as create a log for following up on important e-mail. The comprehensive search feature also looks inside CAD files, including x-refs. Annual subscription rates for Project Center vary by features. *R.F.*

Impression
Autodesk
www.autodesk.com
Microsoft Windows Only

This product is for CAD users who want to create rendered images directly from 2D drawings in DWG or DWF format. It is geared toward quick production of loose, seemingly hand-drawn illustrations, rather than slick, photorealistic visualizations. Impression can reproduce the effects of a variety of media, including marker, pencil, and watercolor. Styles can be customized and applied to an entire layer or to individual geometries within a drawing. And if the original CAD file is subsequently modified, users need not start the rendering from scratch, since the illustration can be readily updated. A free 40-hour trial of the $495 software application is available for download on the Autodesk Web site. *J.G.*

HP Designjet T1100 and T610 Printer Series
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HP's new Designjet series speed up printing, shortening large, color-drawing printing times to as little as 35 seconds. Both the T1100 (pictured below) and T610 series include so-called three-black ink sets that produce true gray, which HP argues will improve the accuracy and detail of your prints. The network-enabled T1100 series comes in 24-inch and 44-inch models and, depending on features, costs between $3,595 and $6,396. The T610 series, designed for personal use, costs $2,595 for the 24-inch and $3,995 for the 44-inch model. Both series work for either a PC or Macintosh and include one-year warranties. *R.F.*

Adobe Acrobat 3D Version 8
Adobe
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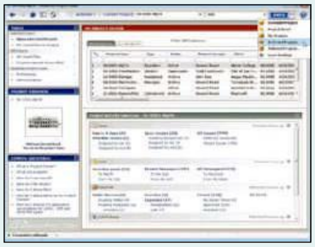
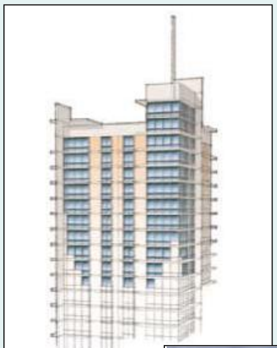
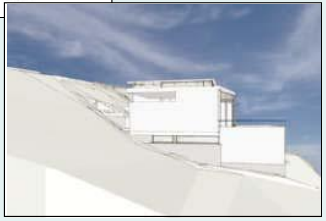
Microsoft Windows Only

Architects have found that the BIM revolution has produced not only good three-dimensional models, but also gargantuan file sizes that sometimes make sharing information among consultants difficult. Adobe has addressed this through an upgrade to its Acrobat 3D software (retails for $995, or upgrade an existing version for $545), which converts BIM models into compressed files viewable in the company's Reader platform. The software enables viewers to fly-through models, look at detailed annotated sections, and make comments. Users can even convert CAD file types directly to a PDF even if they don't have the CAD program on their computer. *R.F.*







Newforma's Project Center (above) combines project data, such as e-mail, transmittals, and submittals, into a single server-hosted site. Impression can reproduce the appearance of various media, such as marker or watercolor (above right and right). HP's new printers (top right) speed up large-scale printing. Adobe Acrobat 3D allows the sharing of complex BIM models for users without access to CAD programs (bottom right).

IMAGES: COURTESY NEWFORMA (FAR LEFT); GED TRIAS, LARSON AND DARBY (UPPER MIDDLE); AUTODESK (LOWER MIDDLE); HP (TOP RIGHT); ADOBE (BOTTOM RIGHT)

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Integrated BIM and Design Review for Safer, Better Buildings

How project teams using collaborative design reduce risk, creating better health and safety in projects

Denver Art Musuem, Frederic C. Hamilton Building, CO, USA
Courtesy of Arup, New York, NY

BIM was used extensively to design and coordinate the new Frederic C. Hamilton Building at the Denver Art Museum. The results helped to improve safety on the job site as well as improve the safety and health of building occupants and visitors.

Provided by NavisWorks

By C.C. Sullivan

Most architecture, engineering, and construction professionals agree it's a foregone conclusion: building information modeling (BIM) heralds a new era in project delivery. Yet what's most significant today is the expanding power and benefit of BIM—the collaboration tools that enhance and integrate these database-driven, 3-D-capable applications. And the benefits of these BIM-driven solutions now accrue directly to facility end-users and occupants.

"BIM has moved from if to when, and from when to how, which is what people are focused on now: Establishing a common understanding of what has to go into the model when it moves from the design team to the construction team," says Rick Lowe, a partner in the Philadelphia law firm Duane Morris LLP.

On the one hand, BIM applications and add-ons allow project teams to enhance the sustainability and safety of their buildings. On the other hand there are design-review tools that allow disparate BIM platforms to communicate seamlessly, furthering and ensuring the same goals. These graphically explicit applications also support strong teaming environments and help ensure that the project vision is shared among all stakeholders. The result includes less risk for the team, the client, and the authorities having jurisdiction (AHJs), as well as safer, more effective structures for the owners and occupants.

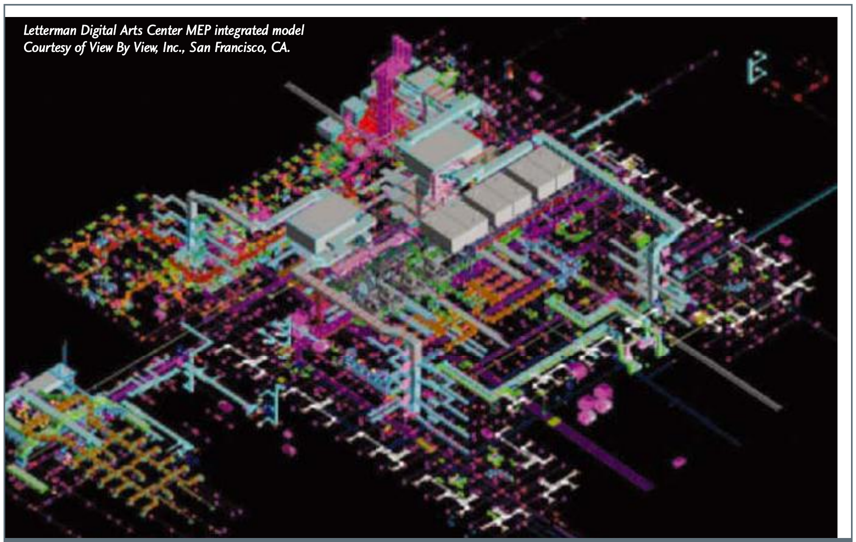
Imagine the integrated delivery of a project. The architect has a BIM model; the mechanical/electrical/plumbing (MEP) engineers have a BIM model; and the structural engineer and other consultants may use BIM as well. Then the contractor has a model for use in phasing and sequencing the work, and major suppliers—the structural steel fabricator, for example—use a 3-D environment to detail and fabricate building components. Ideally, these "authoring tools" should interconnect: they should either be created with the same applications or "flow" from the originating architect/engineer's or owner's BIM model.

CONTINUING EDUCATION

Use the learning objectives below to focus your study as you read **Integrated BIM and Design Review for Safer, Better Buildings.** To earn one AIA/CES Learning Unit, including one hour of health safety welfare credit, answer the questions on page 195, then follow the reporting instructions or go to the Continuing Education section on archrecord.construction.com and follow the reporting instructions.

LEARNING OBJECTIVES
After reading this article, you should be able to:

- Apply the productivity and safety benefits of operating in a collaborative design process.
- Communicate the use of 3-D graphic design tools across multiple organizations using diverse technology platforms, resulting in better, safer outcomes.
- Evaluate the use of integrated design tools, BIM and design review for reducing project uncertainties, waste, risk, and creating safer projects for owners and developers.


Letterman Digital Arts Center MEP integrated model
Courtesy of View By View, Inc., San Francisco, CA.

MEP coordination using BIM and design-review technology can improve designs, system efficiency, job site scheduling and operational safety.

In reality, however, there may be four different BIM solutions used by these various “authors.” So design review, or a collaborative production environment, is critical to ensuring successful project resolution: greater efficiencies and greater profits. “Without design review there would be no BIM coordination process as we know it today,” says Mieczyslaw (Mitch) Boryslawski, Assoc. AIA, of View By View Inc., a BIM consulting firm based in San Francisco. “There are off-the-shelf display technologies available in which one can assemble such a large amount of 3-D data into a single model,” says Boryslawski. “The compression technology and the ability to assemble large and complex 3-D models from almost any CAD application makes this application a must in the project-management tool box.”

...there are design-review tools that allow disparate BIM platforms to communicate seamlessly, furthering and ensuring the same goals.

As BIM authoring tools have become easier for design and construction firms to adopt and for professionals to learn to use, so has coordination become more accessible. “A design-review tool is easier to use than a BIM authoring tool,” says Matthew Jogan, AIA, an architect with New York City’s H3 Hardy Collaboration Architecture, “allowing team members who may not be literate with a BIM authoring tool to engage the model data and participate in the project workflow.” One significant benefit is the large reduction in field changes reported by teams using the technologies.

Structural Engineers Report Benefits of BIM
(2006 survey of 1,266 structural engineers)

Significant overall benefits:	77%
Improved schedule/workflow:	59%
Internal production cost cuts:	36%
Project cost reductions:	29%

(Source: Structural Engineer/gostructural.com)

An additional challenge addressed through collaborative design review: “Through integration software, it appears as if it’s in one model, but that doesn’t mean that you can go in and change the model right there,” Lowe explains. “If someone recognizes that a change has to be made, you send that back to the discipline who is responsible for it. In other words, you don’t have the general contractor changing the structural steel design.”

With such improvements in productivity, quality, liability and overall safety, those A/E/C professionals not using BIM are faced with a question: Why not?

Even the marketplace seems to demand BIM. The U.S. General Services Administration (GSA) requires certain BIM deliverables. At a meeting hosted by the National Institute of Building Sciences last year, the GSA’s Steven Smith reported that poorly coordinated A/E drawings result in field difficulties—“inefficiencies, mistakes and delays” that account for billions in waste and a negative impact on facility life-cycle.

In a 2006 survey of 1,266 structural engineers, 77 percent of the respondents reported significant benefits from the use of the technology. About 60 percent listed improvements to schedule/workflow benefits, while just over a third described more efficient production within their firms. Overall project cost benefits accrued to about 30 percent of the engineers, too. The GSA’s Smith noted that interoperable BIM data sharing stands to improve project delivery and ensure facility qualities that better meet occupant needs and make for “safer workplaces.”

From Productivity to Safety

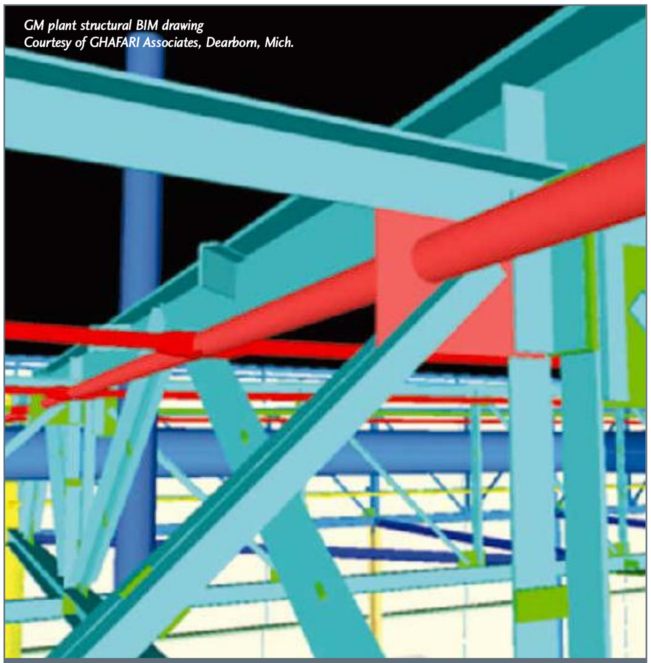
The rationale for using BIM, therefore, goes well beyond the ease of use of the models. Other reasons include productivity gains, project controls, rapid visualization capabilities, and downstream uses of the database built into the model, such as for facility management and operations.

More recently, however, project teams are leveraging BIM and integrated design review to enhance the health, safety and welfare (HSW) performance of their projects. Such HSW advantages include enhanced building occupant safety. For instance, BIM can be used to analyze and compare fire-rated egress enclosures, automatic sprinkler system designs,

Courtesy of View By View, Inc., San Francisco, CA

For the Letterman Digital Arts Center in San Francisco, CA, BIM and design review were used to simulate clearances for emergency vehicles.

and alternate stair layouts. Even finely grained details, such as stair width, rail height, and door swing can be evaluated with BIM to simulate real-world emergency evacuations. Similarly, building accessibility and amenity for occupants tend to be better understood and executed, such as analyzing provisions for users with disabilities.


GM plant structural BIM drawing
Courtesy of GHAFARI Associates, Dearborn, Mich.

The ability to identify, visualize and resolve conflicts among various building systems is a significant benefit of a collaborative BIM environment.

A more commonly lauded quality of integrated BIM is its use in ensuring proper and safe building operations. For example, the proper layout of MEP and fire systems can be verified before mistakes are built in. Called variously "clash detection" or "conflict resolution," this capability proves effective in holding proper clearances and spacing between various utilities—steam pipes to electrical busway, for example.

...project teams are leveraging BIM and integrated design review to enhance the health, safety and welfare (HSW) performance of their projects.

Another emerging HSW arena exploits BIM design review to boost project sustainability, energy efficiency, and overall building performance. For instance, BIM can be used to automatically compare engineer and architect schemes, analyze energy profiles, or compare material specifications. These green-building approaches can also have a direct impact on the emotional well-being of occupants, such as by simulating interior daylighting and view corridors to determine optimal availability. Visualization of planned workspaces also allows the direct involvement of owner and occupants, bringing their input on what increases "user comfort" to the design and construction team.

"On some projects the owner has invited maintenance staff to review the model to comment on equipment accessibility and maintenance considerations," notes Robert Mauck, AIA, P.E., vice president of Advanced Technology with GHAFARI in Dearborn, Michigan.

The 2007 American Institute of Architects (AIA) convention highlighted these benefits in a session sponsored by the AIA's Technology in Architectural Practice group. Titled "BIM Best Practices, Best Results," the session covered the use of BIM in analyzing alternatives for building performance optimization, such as minimizing material waste, optimizing equipment use, and creating a safer construction site. The presentation concluded that BIM analysis tools in several categories contribute to sustainable, high-performance buildings.

Constructability and Coordination

Another place demanding safety is the construction site itself, where the coordination and completeness of the integrated BIM data helps ensure proper scheduling and staging of construction tasks. Some general contractors and construction managers (CMs) also use BIM to reduce the amount of waste on site—an important part of sustainable construction practice—as well as loose material that can be a theft target. Additional uses include facilitating movement on the site and reducing the number of workers needed: the bottom line, fewer human and material resources to complete the tasks at hand.

Less activity on the job site also contributes to a safer construction process, as well as a better liability picture, say some. "The more the team understands what's going on, the liability issues tend to be reduced," says Dan Gonzales, corporate manager of Virtual Design and Construction at Swinerton Construction. "In a paper-based, 2-D environment, everyone only understands their piece; but with 3-D, everyone is looking at the same model. And the design-review tool reads so many different models that everyone still has responsibility for their own model, so there is no change in liabilities," he says. "From that standpoint, I think design review keeps liabilities clear."

According to *The Contractor's Guide to BIM*, published by Associated General Contractors (AGC), the advantages of using BIM include: identifying collisions, such as where piping may run into structural steel; studying what will be built in a safe, simulated environment; reducing errors and corrections in the field; having more reliable expectations of field conditions; being able to incorporate more prefabricated components and assemblies; and comparing of "what if" scenarios for logistics, sequencing, hoisting and other major moves. The AGC also writes that BIM can reduce callbacks and warranty costs.

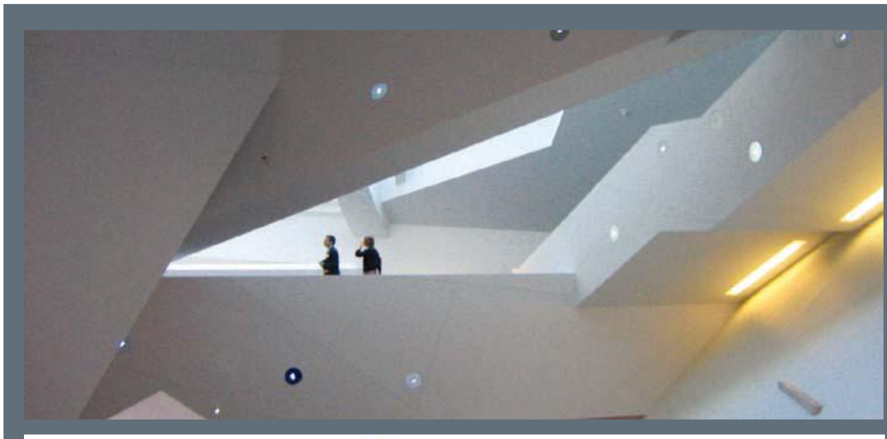
With its early design review, the BIM process essentially shifts project coordination to much earlier in cycle, says Boryslawski. "The numbers of trades working in a tight area is minimized, and some parts of MEP are assembled off site from the BIM 3-D shop models, also contributing to safety due to fewer people on site during the installation process," he explains. "And the trades have a clear understanding as to the position of all the items within the confined space."

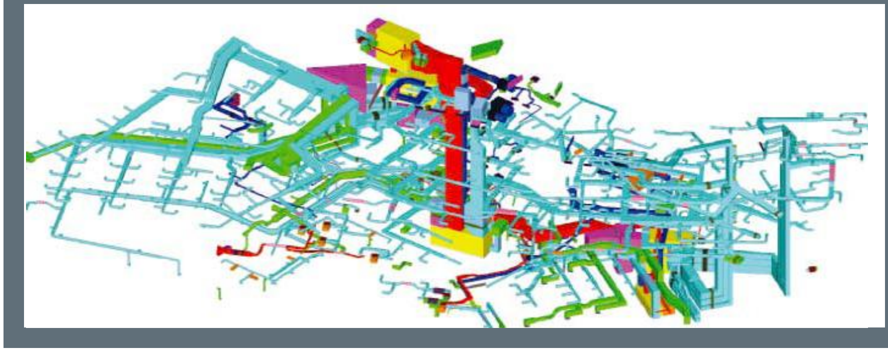
Swinerton, for one, reports frequent uses of the BIM model in the field. "We use BIM to plan equipment placement, storage, and on-site conditions, and to tie into our sequencing to really look at how a building is going to built," says Gonzales. "For example, we use BIM to make sure lower areas are cleared away when you're placing steel."

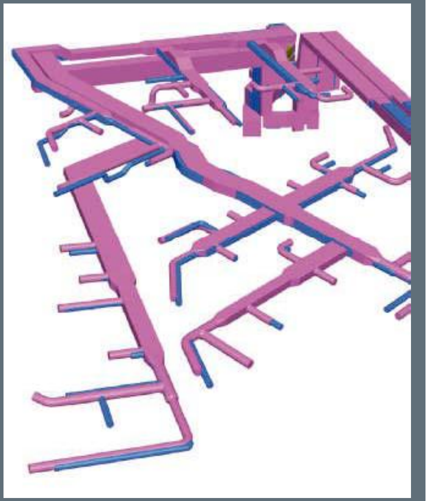
Risk Reduction

With such significant health and safety benefits in both design and construction phases, it follows that overall project liability, as well as project team risk, can be reduced, too. Issues of design coordination, conflicts, and code compliance can be addressed during design, rather than construction. Projects should have less variability in cost and construction time, along with fewer claims.

"Architects, as well as their consultants, working with a building information model, reduce risk because the model makes the relation of design information explicit within the same virtual space," says Jogan. "The ambiguity between the architect's design intent and the 'fit' of a consultant's building system is practically eliminated."







Denver Art Museum, Denver, CO.

Interior view (left); Isometric view of ductwork (below left); Superimposed isometric view of sheet metal shop drawing vs. design drawing (below)

Courtesy of Arup, New York, NY

During the development of the project, strict rules can be applied to police the model, restricting access rights and allowing changes only by authorized project team members, according to Lachmi Khemlani, editor of *AECbytes*. When versions of the model fall out of date, they can be automatically destroyed or archived, with a precise audit trail. Responsibility for the various models can also be clearly assigned. "For instance, quantity take-offs is not something that the design team should be responsible for any more in 3-D than in 2-D, even though the model itself can generate this," Lowe explains. "Shop drawings, as well, remain on the contractor side."

In some recent cases, the BIM model has remained contractually subordinate to 2-D documents, as was the case for work on the Denver Art Museum. In the future, more design teams will rely more on electronic data so that construction pricing, scheduling and detailing can be generated without duplicating 2-D documents. One of the reasons is that BIM tools are becoming available for more construction specialties and vendors. For the Denver museum, according to *Engineering News-Record*, the model specifically designed for steel fabrication was used to procure other building systems.

Such challenges again open the door for BIM design-review and collaboration tools, says Jogan. "They enable architects and their consultants to focus on the work—the design and coordination of a building—instead of focusing on issues about the use of specific authoring tools and limitations with interoperability," he explains. "In this way, the potential to collaborate with different engineers, contractors, and subcontractors via a model-based process does not get derailed by limitations of various authoring tools to interoperate with each other. BIM is about enabling a model-based process."

Furthermore, Jogan adds, the collaboration tools are easier to use than BIM authoring tools, opening the doors to more use across the building teams. And the original design information is protected, says Lowe, even as it is accessible through the design review. All this functionality and explicit information translates into reduced risk. "When this is combined with a workflow process that coordinates and documents directly from the model, there is inherent and immediate coordination between systems within the design documentation," Jogan observes. "The risk of delivering a design intent that has unaddressed coordination issues between building systems is greatly reduced."

Healthcare Project Benefits

In certain markets driven by complexity and liability, BIM has been more quickly adopted. One of those markets is healthcare. "I don't know how you'd design and build a medical facility today without using BIM," said Douglas Fitzpatrick, P.E., LEED® AP, managing member of Fitzpatrick Engineering Group at a national roundtable on BIM. "The need for collaboration among the disciplines is tremendous."

The use of collaborative BIM signals better outcomes, say experienced project teams. "In the health industry most of the problems occur in MEP construction coordination, and about 45 percent to 55 percent of the total costs of hospital construction projects are in the MEP systems," says Boryslawski. "Having a fully design-coordinated BIM for MEP will reduce most of the risks associated with healthcare industry projects." ■

This article continues online at
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Program title: **"Integrated BIM and Design Review for Safer, Better Buildings," (06/07, page 191).** AIA/CES Credit: This article will earn you one AIA/CES LU hour of health, safety, and welfare credit. (Valid for credit through June 2009). **Directions:** Refer to the Learning Objectives for this program. Select one answer for each question in the exam and fill in the box by the appropriate letter. A minimum score of 80% is required to earn credit. **To take this test online, go to http://construction.com/CE/**

LEARNING OBJECTIVES

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Questions

1. With BIM design review software, any project team member can change the work in the model by other project team members.
■ **a.** True
■ **b.** False

2. The use of BIM for "clash detection" or conflict resolution means that
■ **a.** users can determine where building components interfere with each other.
■ **b.** users can reduce the number of change orders.
■ **c.** arguments between engineers, architects and contractors are identified and resolved.
■ **d.** 3-D elements of building models are automatically reconciled.

3. Which is NOT a health, safety & welfare benefit of BIM and design review at the construction site?
■ **a.** Reducing errors and corrections in the field
■ **b.** Comparing "what-if" scenarios for logistics, sequencing and hoisting
■ **c.** Automatically sampling air quality at the job site
■ **d.** Incorporating more prefabricated construction components

4. For healthcare facilities, BIM and design review have provided:
■ **a.** life safety benefits.
■ **b.** coordinated fire-protection and plumbing information.
■ **c.** savings on installed costs.
■ **d.** All of the above

5. Recent uses of BIM technology include:
■ **a.** identifying coordination issues to increase project risk and liability.
■ **b.** preventing the movement of equipment within healthcare facilities.
■ **c.** assessing a building's performance for ADA, egress and daylighting.
■ **d.** wireless building permit applications.

6. Research labs designed without BIM may have heating energy requirements that are how many times higher than those for buildings designed with BIM?
■ **a.** 100 times
■ **b.** 2-4 times
■ **c.** 17 times
■ **d.** 0 times

7. Which is NOT a documented benefit of using BIM for sustainable design?
■ **a.** Analysis of commuting costs for the occupants
■ **b.** Study of daylight penetrations and views
■ **c.** Modeling of cooling and heating loads
■ **d.** Accounting of recyclable content in building products used

8. How can BIM assist in making building operations safer and more efficient?
■ **a.** By providing building component warranty and replacement information.
■ **b.** By integrating maintenance schedules and MEP systems information.
■ **c.** By providing as-built drawings to facilities managers and safety officials.
■ **d.** All of the above.

9. For the Letterman Digital Arts Center, integrated design-review tools ______.
■ **a.** coordinated the installation of graphics workstations
■ **b.** increased the project cost
■ **c.** identified hundreds of design and construction discrepancies
■ **d.** contributed to a utility rebate

10. How did BIM improve the scheduling of the project at the Flint V6 plant?
■ **a.** Reduced time needed for steel fabrication and delivery.
■ **b.** Made it a LEED Platinum design.
■ **c.** Allowed project to proceed without structural drawings.
■ **d.** Maximized use of prefabricated components.

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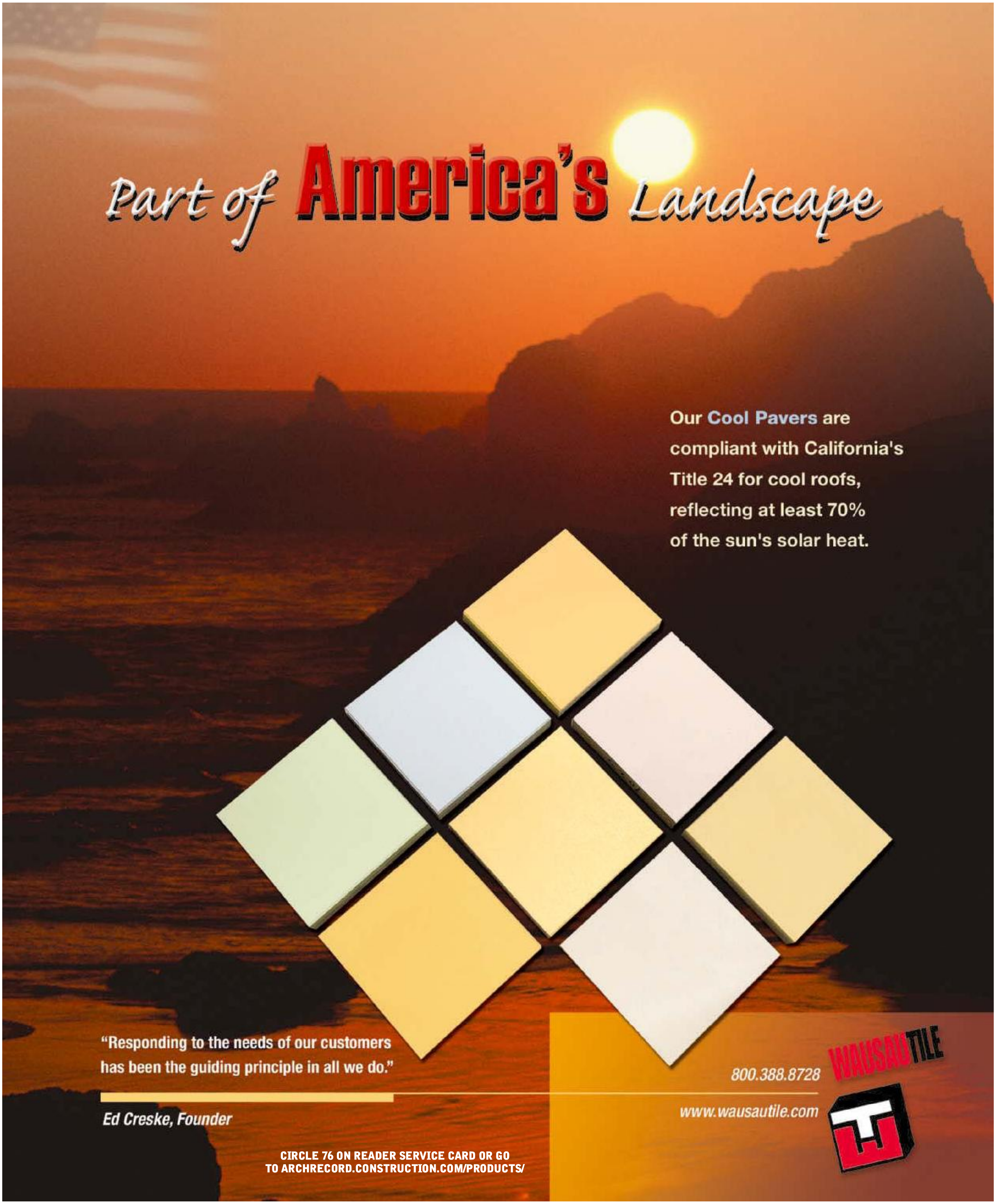

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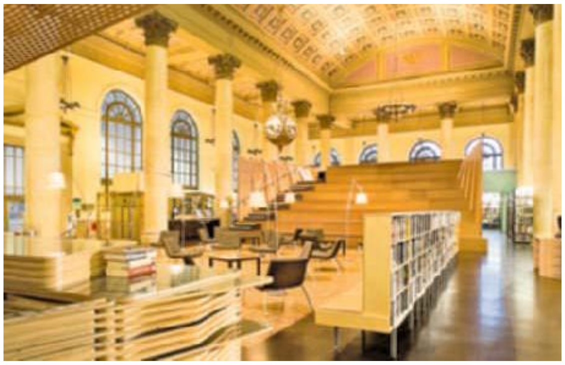
Interiors

Within historic buildings, modern treasures



After decades of fleeing to the suburbs, Americans are now reversing the population tide in favor of cities, and there's no more apparent sign of this trend than the restoration and adaptive-reuse projects that have transformed whole neighborhoods. At first blush, reclaiming cities' historic fabric doesn't seem to leave room for contemporary architecture. But the practice actually provides designers with opportunities to accommodate new functions, materials, and technologies. Combining a respect for context with a desire for an authentically modern intervention can yield new forms and propel innovation.

The architects featured here have proved themselves well equipped for these tasks. At the Rhode Island School of Design, Office dA has transformed an Italian Renaissance–style banking hall into a visual arts library. The project is multifaceted, the architects having inserted new volumes that, besides containing the many tools that students demand, feature complex geometric shapes. These interventions make the most of medium-density fiberboard without detracting from the luster of the hall's coffered ceilings or suspended brass clock.

Similarly, Tom Kundig's conversion of a Seattle warehouse into a painting studio refuses to parrot the past or intervene with a heavy hand. Using familiar drywall, the architect has fabricated a system of pivoting partitions that open, close, or slide out of sight according to the artist's needs. A muscular staircase, plus a surprising kitchen table, appear as if they were fabricated on-site a century ago.

Even in Europe, where sprawl has begun to invade, old urban cores are canvases for contemporary design. The courtyard apartment building that houses the Julie Sohn boutique in Barcelona looks like any of its neighbors, but CCT Arquitectos' breathtaking renovation of the ground floor slipped a pair of Manolo Blahniks on the tenement. The interior differentiates between old and new, literally maintaining an arm's length between the building's bones and its evocatively shaped ceiling and sculptural display fixtures. Indeed, a project like this could potentially seduce suburbanites back into the city. *David Sokol*

BRIEFS

The interior architects and designers who traveled to New York for the International Contemporary Furniture Fair and corresponding New York Design Week events had more than fresh furnishings and materials to sample. A series of new showrooms framed the wares.

While the openings ranged from the Manhattan satellite of the Brooklyn design shop **Matter** in NoLita to the Flatiron District's **Gallery R'Pure** (which features furniture by a group of French designers), most of the action was centered in SoHo, where the historic cast-iron buildings have been molded into exhibitions of commerce.

B&B Italia opened its second New York showroom in the neighborhood. The furniture maker tapped architect Gabellini Sheppard Associates to oversee the 5,500-square-foot project, which the company calls a "laboratory" for the modern-design consumer. This lab will definitely percolate, as it rotates seasonal collections.

The nearby **Luceplan** showroom features the Italian lighting company's products, as well as native talent. The 2,300-square-foot store was designed by Alessandro Scandurra, who devised a series of shadow boxes and a free-standing, cubelike room so visitors can gain a better sense of the luminaires in enclosed spaces.

Other SoHo stores got spruced up. **Bisazza**, for example, passed the torch from Fabio Novembre, who designed the showroom in 2003, to Carlo Dal Bianco, who designed the recently reopened space that spotlights a 24-karat-gold-leaf tile fireplace. Another well-known brand undertaking a makeover is the renowned design store Moss. The original storefront has been turned over to installations for the Italian furniture manufacturer Moroso and the family-run American textile producer Maharam. **Moroso at Moss** and **Maharam at Moss** are first-ever retail outlets for both companies. To welcome them, longtime Moroso collaborator Patricia Urquiola redesigned the 3,800-square-foot space, which is the first U.S. interior for the popular Milan-based architect and designer. Moss's trademark array of jaw-dropping products, meanwhile, has been moved to the store's former gallery space next door. *D.S.*

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PHOTOGRAPHY: © JOHN HORNER (TOP); COURTESY ERIC LAIGNEL FOR B&B ITALIA (BOTTOM)

Office dA inserts a new sensibility within a historic shell to create the **Fleet Library at RISD**

By Clifford A. Pearson

How do you turn a Renaissance Revival banking hall from 1917 into a 21st-century visual-arts library and do it on a tight budget? That was the challenge facing Office dA, the Boston-based architecture firm headed by Nader Tehrani and Monica Ponce de Leon, when it started work on the 55,000-square-foot Fleet Library at the Rhode Island School of Design in Providence.

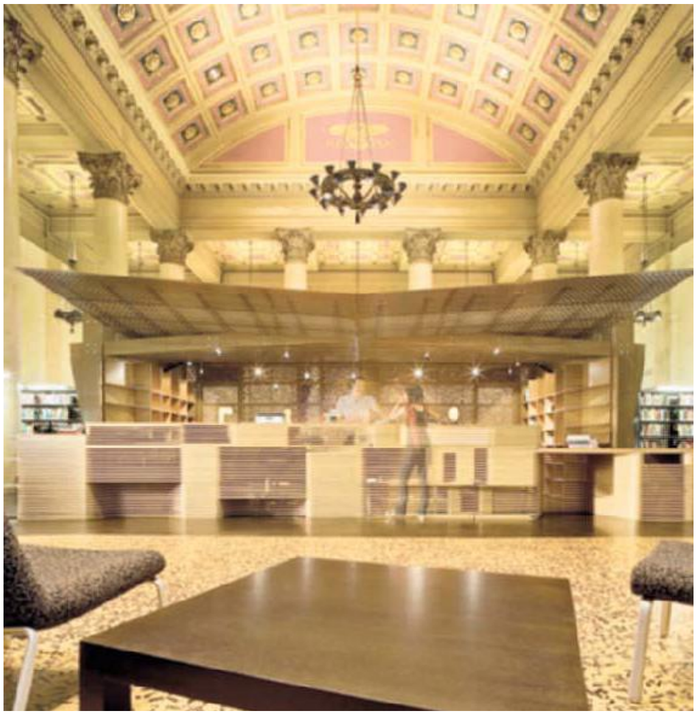
Designed by York & Sawyer and listed on the National Register of Historic Places, the old building features an interior space 180 feet long and 114 feet wide and topped by an elaborately coffered, barrel-vaulted ceiling. The banking hall might easily have served as a magnificent reading room, if only the school had the luxury of devoting all of it to one use. But the library's program called for 90,000 books in open stacks, seating for 250 people, 400 periodical titles available for browsing, and a variety of different study, administrative, and multimedia support spaces.

Even with a balcony running along one side of the banking hall and a second floor wrapping around the vaulted ceiling, there wasn't enough space for all of the programmatic elements. "We had to make the height of the space work for us," says Tehrani, who studied at RISD and, like his partner, has taught there. Despite initial resistance from the client's design-review committee to interrupting the hall's impressive volume, Office dA developed a "double-decker" strategy that inserted a two-level study pavilion and a single-level circulation center within the grand space.

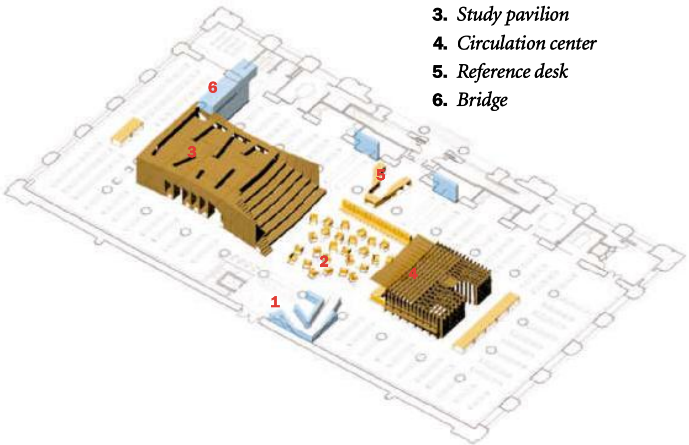
"We wanted to maintain the scale of the banking hall," states Ponce de Leon, "so we decided to install two objects as if they were informal elements in an ancient ruin." The old bank building was actually in good condition—hardly a ruin—but the architects imagined their project as adding a new layer to a historic place, much like the multiple strata we see today at the Roman Forum. Rather than obscuring the past, the new elements add a modern resonance. Office dA also wanted its work to have a temporary quality that would contrast with the more permanent nature of the Italianate setting.

To respect the old building, the architects developed three different strategies for the elements added inside it. The largest pieces—the study pavilion and the circulation center—are designed as insertions, milled by computer-numerical-controlled (CNC) machinery off-site, and then assembled quickly inside the banking hall. Their prefabricated nature not only sets them apart from their historic context but implies they could be dismantled and carted away if needs change in the future. A second strategy covers the few places where the new actually touches the

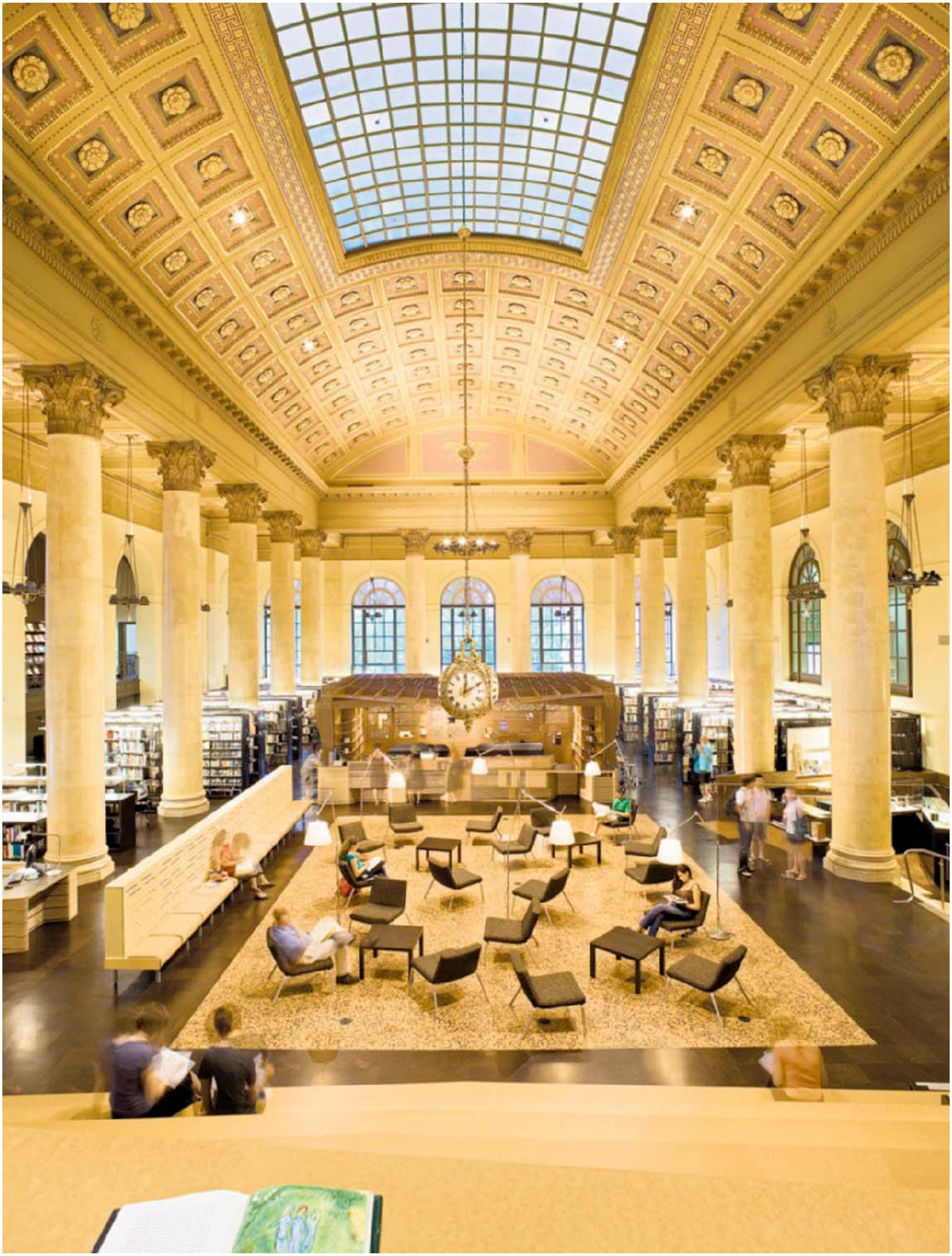
Project: *Fleet Library at the Rhode Island School of Design, Providence*
Architect: *Office dA—Monica Ponce de Leon, Nader Tehrani, principals; Daniel Gallagher, project architect; Arthur Chang, project manager; Lisa Huang, Sean Baccei, Kurt Evans, Anna Goodman, Ahmad Reza Schricker, Ghazal Abassy, project team*
Engineers: *Simpson Gumpertz & Heger (structural); Harry Grodsky & Co. (mechanical/HVAC)*
General contractor: *Shawmut Design and Construction*



Although made of CNC-milled MDF board, the circulation center (above) and study center (foreground of photo, opposite) reinforce the axiality of the old banking hall. The architects hid sprinklers in the coffered ceiling's rosettes and added new lighting to better illuminate the barrel vault.

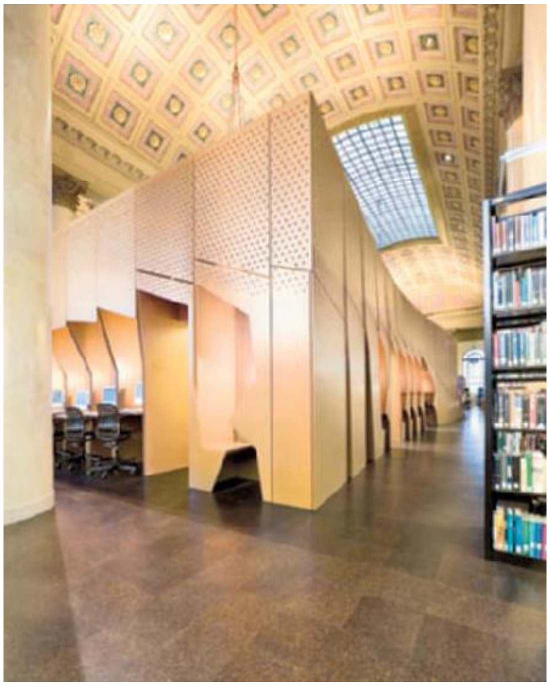


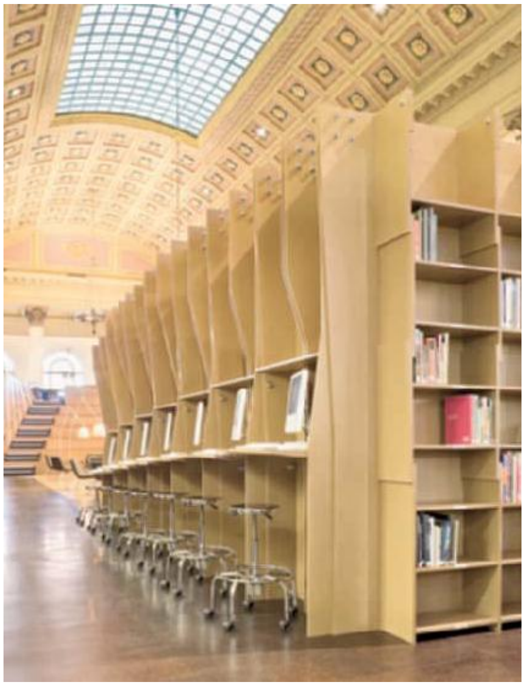
1. *ADA ramp*
2. *Lounge*
3. *Study pavilion*
4. *Circulation center*
5. *Reference desk*
6. *Bridge*



PHOTOGRAPHY: © JOHN HORNER

A glass bridge (left) connects the study pavilion to an existing balcony. Carrels line three sides of the study center (below). Workstation heights in the circulation center vary from one unit to another (below right).



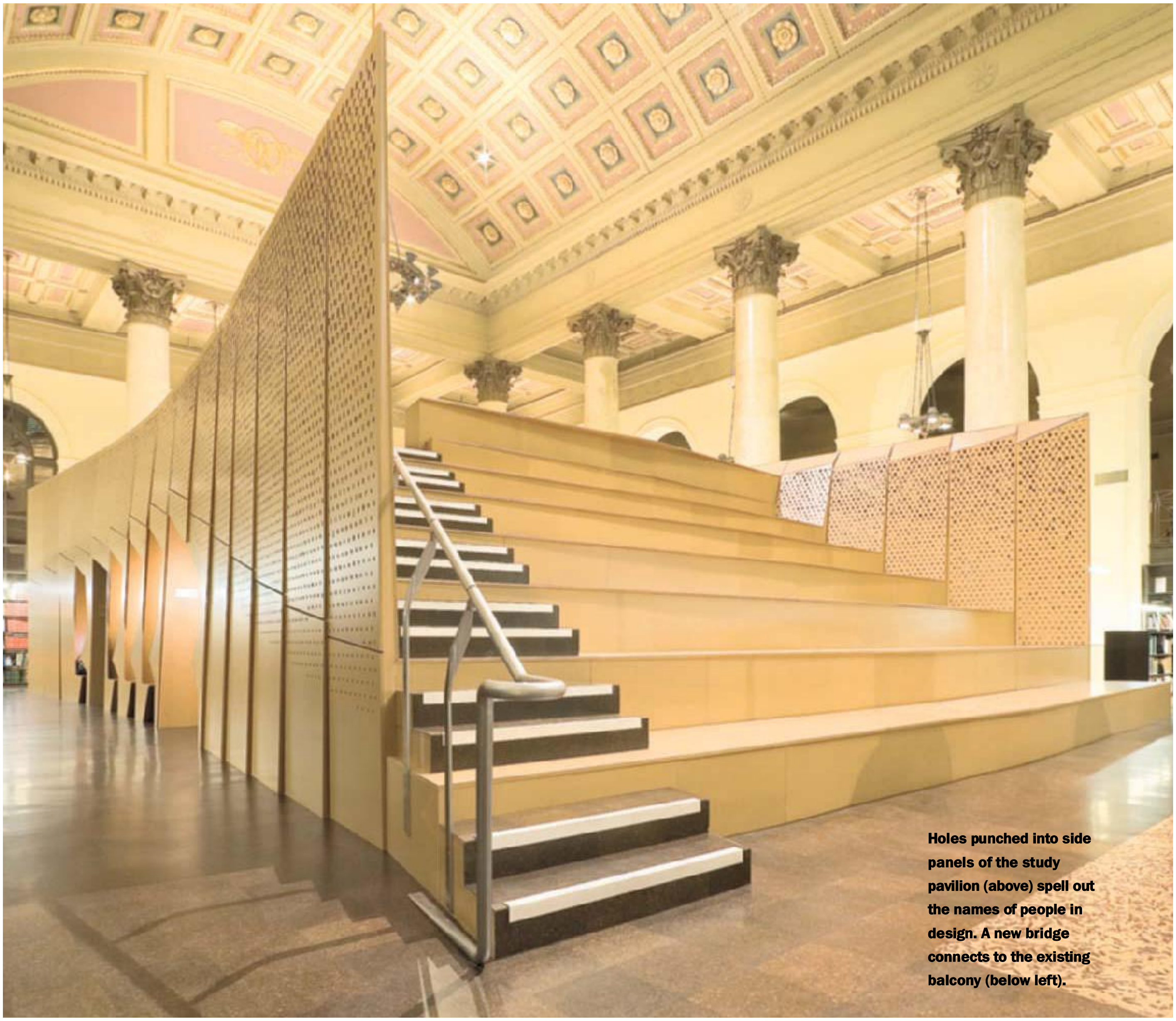


old—such as a small bridgelike structure that connects the upper level of the study pavilion to the old balcony and a handicap-access ramp at the library entrance. Here, Tehrani and Ponce de Leon either made their work as light as possible (for example, using translucent glass for the bridge) or treated it as a continuation of the existing floor plane (extruding the ADA ramp so it zigzags past a set of display cases). The third strategy accommodates the smallest elements in the project—such as the reference desk and pieces for various study areas—and treats them as furnishings that can be moved around.

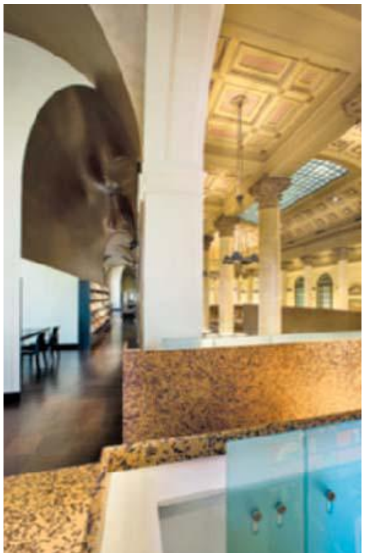
The library, which had a construction budget of only $8.8 million (about $160 per square foot) and took just 9 months to build, sits downstairs from new dormitories that Office dA also created (on an even tighter budget) from what had once been office space in the bank building. With hundreds of new dorm rooms just an elevator ride away, the architects treated the library as not just an academic resource but a communal living room for the students housed upstairs. So at the center of the old banking hall, on axis with the library entrance, a casual lounge beckons with comfortable chairs and floor lamps.

Tehrani and Ponce de Leon are famous for exploring the nature of materials. In this project, they cut and assembled medium-density fiberboard (MDF) in a variety of ways, using it to both highlight and subvert the material's flatness. For the study pavilion, they wrapped a steel frame with large sheets of MDF, canting the planes in and out to create a rippling, faceted skin reminiscent of scales on a fish. To lighten the effect, the architects punched holes in the MDF that start as small amoebalike openings, then turn into letters as they get larger. Facing the lounge, the study pavilion steps back so students can climb to an upper-level reading deck. Underneath this deck, Office dA tucked a set of group-study and service spaces while carving out a series of study carrels along two sides. Cut from MDF panels, the individual carrels give the material a surprising sense of depth.

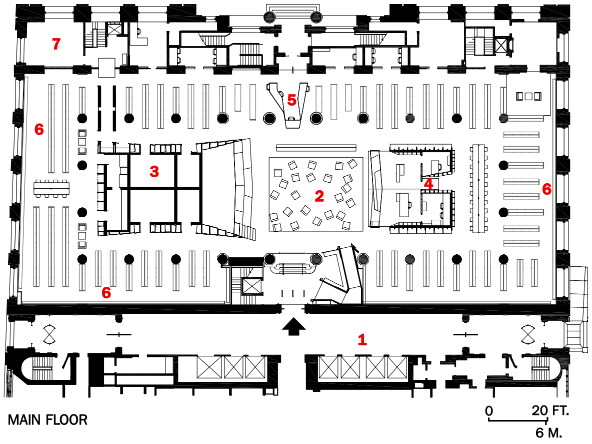
For the circulation center, the architects treated MDF in a different way, bolting layers of it together to form structural members such as columns and beams. Instead of a skin, it works here as a skeleton. "We like to take an element or material and radicalize it," says Tehrani, explaining how his firm used MDF in unusual ways. "It's a kind of minimalism," he adds, in which one thing can become many different things. Office dA exploited CNC milling and prefabrication techniques to create variety—as in rows of workstations where each counter is a few inches higher than the one right before it. "By using new technologies, we've been able to bring back a level of craft that had mostly disappeared," explains Ponce de Leon. ■

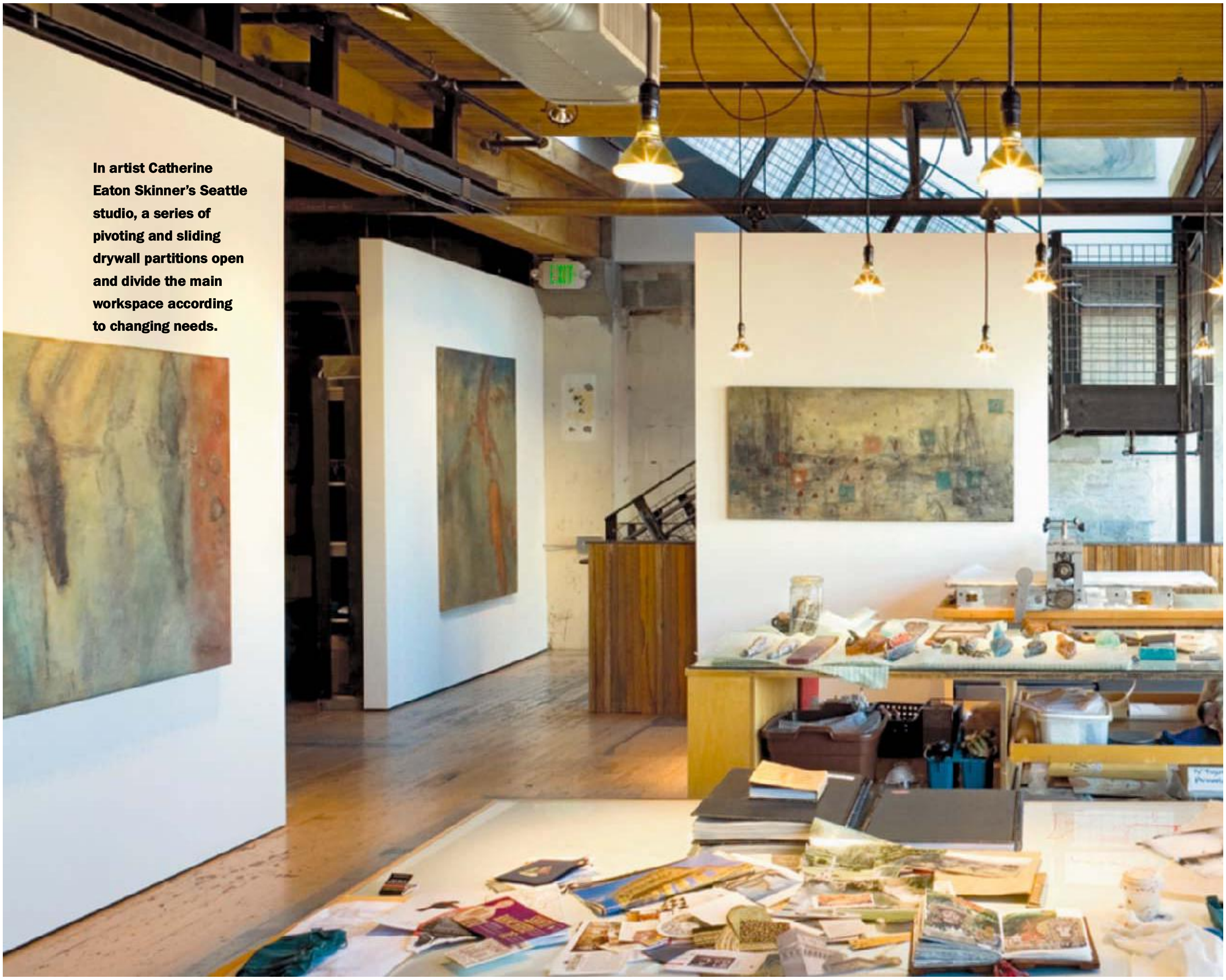


Holes punched into side panels of the study pavilion (above) spell out the names of people in design. A new bridge connects to the existing balcony (below left).

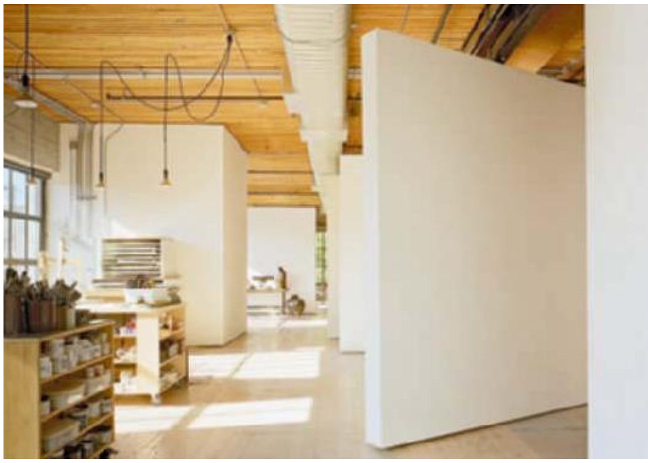


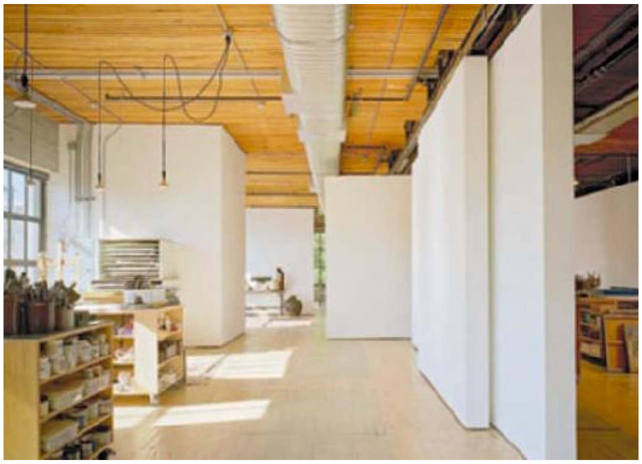
1. *Elevators to dorms*
2. *Lounge*
3. *Study pavilion*
4. *Circulation center*
5. *Reference desk*
6. *Stacks*
7. *Classroom*



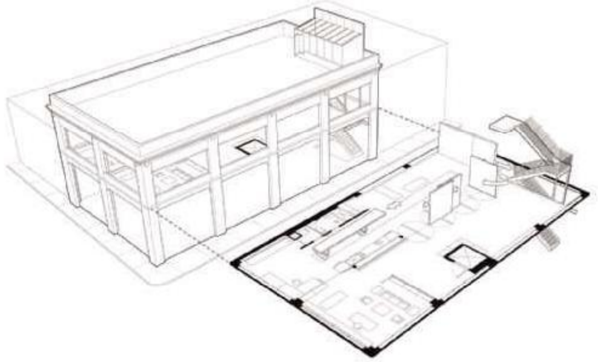


In artist Catherine Eaton Skinner's Seattle studio, a series of pivoting and sliding drywall partitions open and divide the main workspace according to changing needs.





For **Skinner Studio,** Tom Kundig adapts a Seattle warehouse into flex space



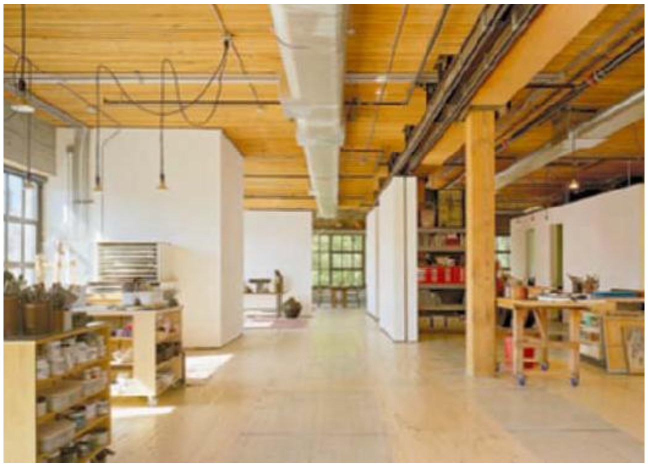
By Nate Lippens

The gray skies of Seattle settle on the moody, chalklike paintings of renowned artist Catherine Eaton Skinner in her second-floor studio overlooking the city's Capitol Hill neighborhood. The studio is discreetly tucked into a vast former warehouse, with big northwest-facing apertures framing clouds above and neighborhood bustle below, and the building's 100-year-old Arensberg Sons sign marching across the facade beneath her window. Although this soaring space alludes to an earlier industrial function, it also features the hallmarks of its designer, Tom Kundig, FAIA, of Olson Sundberg Kundig Allen Architects, whose devotion to detail, integration of reclaimed materials, and affinity for adaptive reuse converge here.

Kundig, who recently was awarded an Academy Award in Architecture from the American Academy of Arts and Letters, sees his work as collaborative, giving physical form to the ideas of his clients. Of Skinner's practice, he says, "She had a vision for her studio that I wanted to make real."

That vision focused on accommodating multiple uses in a space that changes depending on the need. In response, Kundig divided the 3,750-square-foot studio into two bays by mounting 9-by-9-foot drywall panels that pivot and slide on a steel track. The track runs adjacent to a large, central

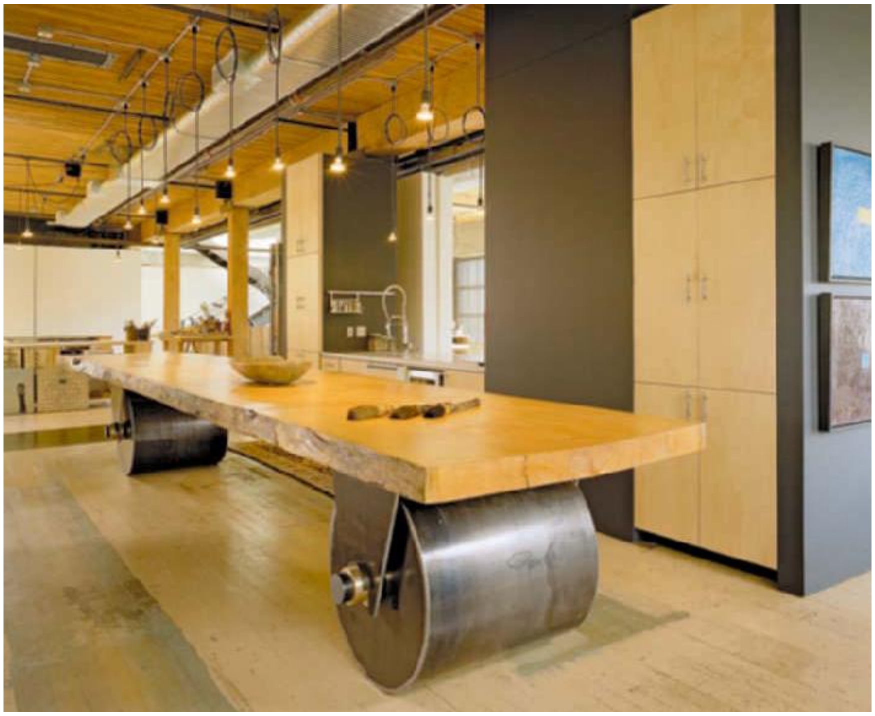
Nate Lippens is an art critic for the Seattle Post-Intelligencer, *and the 2006 recipient of the Hopgood Prize for fiction.*

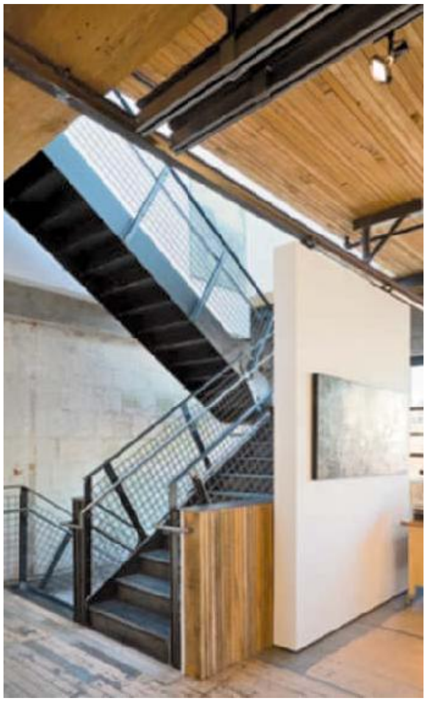


PHOTOGRAPHY: © BENJAMIN BENSCHNEIDER

Project: *Skinner Studio, Seattle*
Architect: *Olson Sundberg Kundig Allen Architects—Tom Kundig, FAIA, principal designer; Kenny Wilson, Dan Wilson, project managers*
General contractor: *Riehl Construction*

Sources
Windows: *A&S Steel Windows*
Skylights: *U.S. Aluminum*
Metal doors: *Site Welding Services*
Wood doors: *Weyerhauser*
Ambient lighting: *Lightolier*
Plumbing: *Chicago Fixtures*





A reclaimed wood slab on steamroller wheels serves as a massive kitchen table (above). Kundig inserted a new staircase to provide access to the second-floor studio and rooftop (right). The partitions can be used to display artwork (left).

wood beam, which suggested a natural compartmentalization. Now Skinner can halve the room to exhibit works, or block out daylight to maintain a particular range of light intensity while executing new projects.

The flexibility with which Kundig imbues his designs often involves mobility, specifically partitions that slide or rotate. "A lot of clients ask, 'Do we get one of those moving thingies?' " Kundig says. "But it's not something that I want to become a gimmick. It has to work in the space and make sense in the context of the design." This is especially useful for Skinner, who is also an active art philanthropist and opens her studio to various organizations to hold events and retreats. "The partitions allow us to change the room for whatever is happening here," she says. "They can be moved, and it changes the entire space." For fund-raisers, Skinner has opened the space up to accommodate larger crowds; and for conferences, she has divided the room to create bays for separate meetings.

A "working wall" constructed of gypsum board runs the length of the east wall in the main studio space, and then pulls away from that brick surface to accommodate a utility room and bathroom. Nine-by-nine-foot sliding gypsum-board partitions at the south end create a storage area for art supplies and archived paintings.

Kundig's pragmatic approach to Skinner's program shaped the light plan, too. Simple conical downlights plug into ceiling outlets and hang from their own electrical cords, which loosely dangle from above. The informal design allows Skinner to move the luminaires simply by reswagging the cords. "I hope she makes changes over time as she sees fit," Kundig muses, adding that throughout his career he has encouraged clients to view his designs not as museum pieces, but as daily tools that must be altered, expanded, or tweaked according to changing needs.

Showing a sensitivity for past as well as future uses, Kundig took care to retain old elements that were unfinished or slightly imperfect. The floors were cleaned rather than resurfaced, and the concrete, which had developed a scuffed patina, was left untouched. These details are freshly illuminated thanks to a skylight inserted above a new steel staircase, which connects the street entrance to the studio and up to a small roof deck.

Other interior elements intimate that they have always been there. The kitchen sits in the studio's center, for example, and features a 12-foot-long table that Kundig designed with steamroller wheels and a reclaimed slab of wood found by Skinner. Besides contributing to the impression that the studio has been less designed than resurrected, the table divides the room in half—but can be moved into one of the bays, as required.

"It's important to have a space that's about creative life but also can include business and even living space if Catherine ever chose that," Kundig says of the studio's deft balance of organization and organic freedom. Indeed, to lead a seamless artistic life requires a studio that is fluid. Skinner explains, "It feels grounded, but it's still spontaneous." ■

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HÄFELE
FINDING BETTER WAYS

CCT Arquitectos transforms an ordinary Barcelona interior into the fashion-forward **Julie Sohn boutique**

By David Sokol

Fashion-loving visitors to Barcelona flock to two destinations. Many go to the grand thoroughfare Passeig de Gràcia to browse the outposts of international fashion houses. But more adventurous trendsetters navigate through the cobblestone ways of the El Born neighborhood, whose narrow medieval streets are dotted with the storefronts of native designers little known outside of Catalan circles. Here local talents sell avant-garde duds in their shops—and sew them in the back rooms.

The Korean-born, Barcelona-based fashion designer Julie Sohn falls somewhere between these two worlds. Her simply adorned outfits possess a haute-couture elegance reminiscent of Max Mara, but are as wearable as a T-shirt ripped from the racks in El Born. Fittingly, her new showroom is located several blocks away from the Gràcia's brand names. And its design by CCT Arquitectos, which sets a sculptural dropped ceiling inside a raw historic interior, combines elegance with edginess.

Sohn, who is married to CCT principal Conrado Carrasco, helped launch the architecture firm in 1997. Carrasco and his partner Carlos Tejada's inaugural project was Sohn's first boutique, completed the following year. Carrasco says this latest effort is "totally different": "The first one was a very conceptual shop, Minimalist and Brutalist at the same time. This new shop has the image of a container." Sohn says she had nothing to do with the change of ambience, adding, "I just told them that I didn't want white walls and just a stretch of shelves and rails and nothing else."

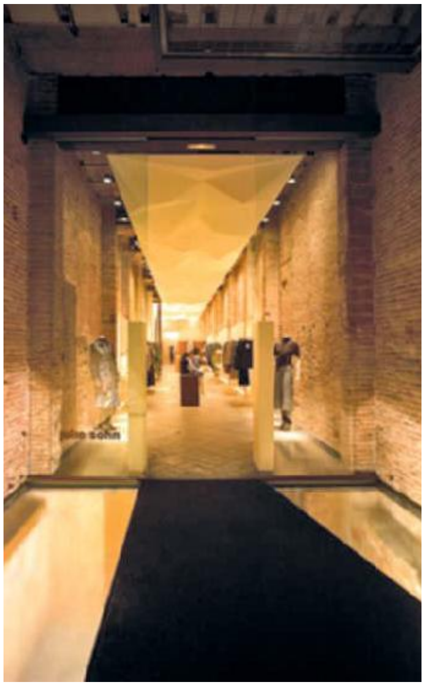
The architects chose the ground-floor commercial space of an early 1900s apartment building to renovate for the showroom, a decision they attribute to the good rent and the 3,760 square feet necessary to meet Sohn's requirements. While Tejada calls the building typical for the Eixample, one of Barcelona's century-old expansion neighborhoods, CCT crafted the familiar formula to captivating effect.

The store flows around a central multifamily entry. While one arm of this U-shaped space terminates in a shop window, the other serves as the store entrance. Here, customers are introduced to CCT's container concept, in which the architects rehabilitated the brick walls, barrel-vaulted ceiling, and concrete floors, and pulled their interventions away from the historic frame. In the case of the entrance, a steel-mesh gangplank traverses a 5-foot-tall basement, flanked by glass sheets onto which a water system releases a constant drip. The shimmering surroundings promise to transport the shopper from urban grit to fashion wonderland, and act as a light monitor for the cramped basement; the display window opposite the entry also rises as a double-height volume in order to draw daylight into the subterranean stock room.

Once inside, visitors enjoy a catwalk experience. Rather than hide the old bones it had salvaged, CCT mounted backlit, white-lacquered

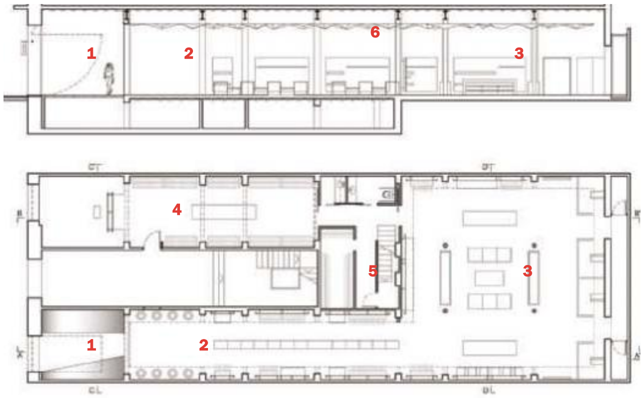
David Sokol is a New York–based freelance writer and a contributing editor at Surface. *He has also written for* Metropolis, Interior Design, Frame, *and* Azure.

PHOTOGRAPHY: © EUGENI PONS

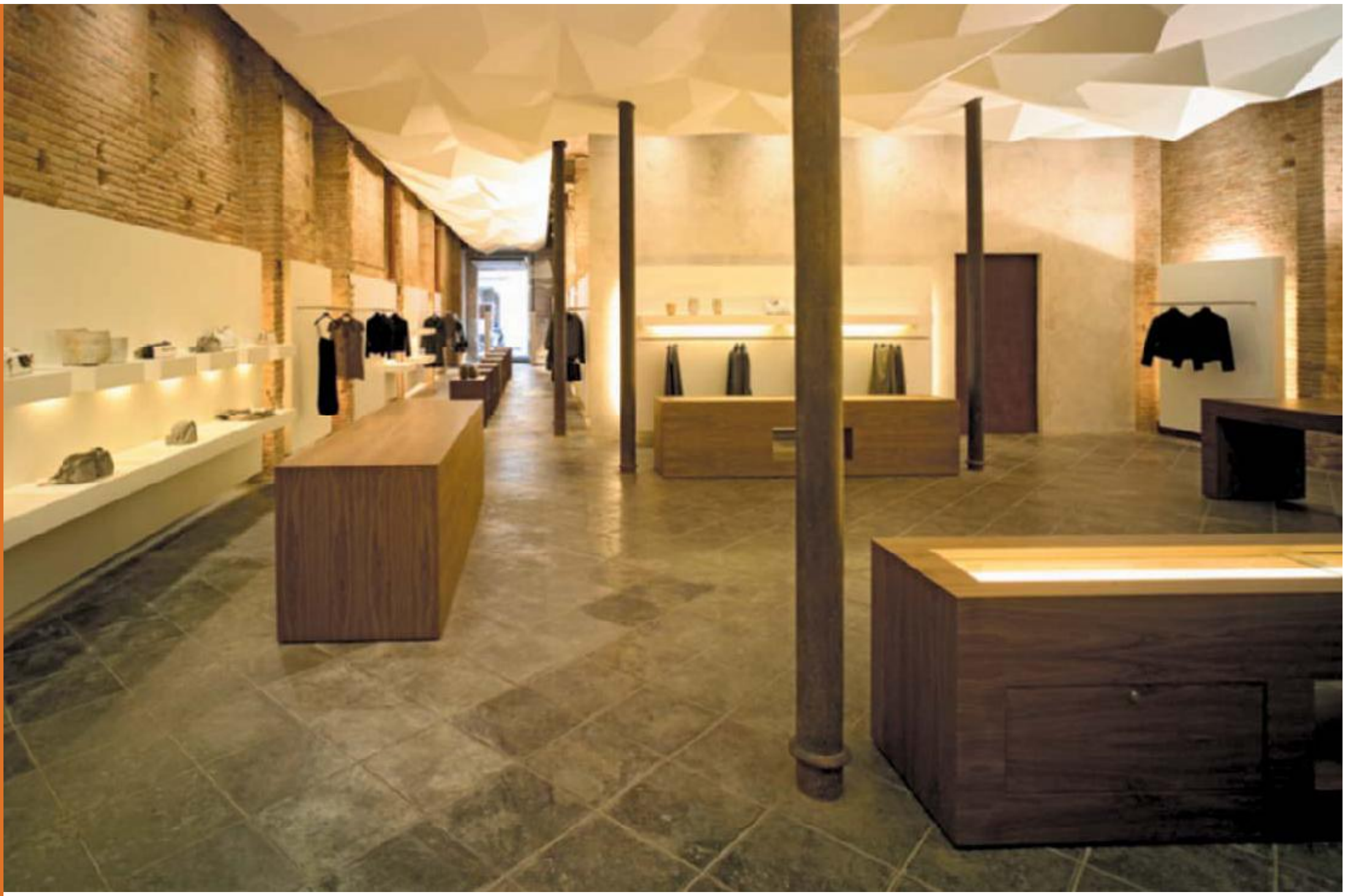


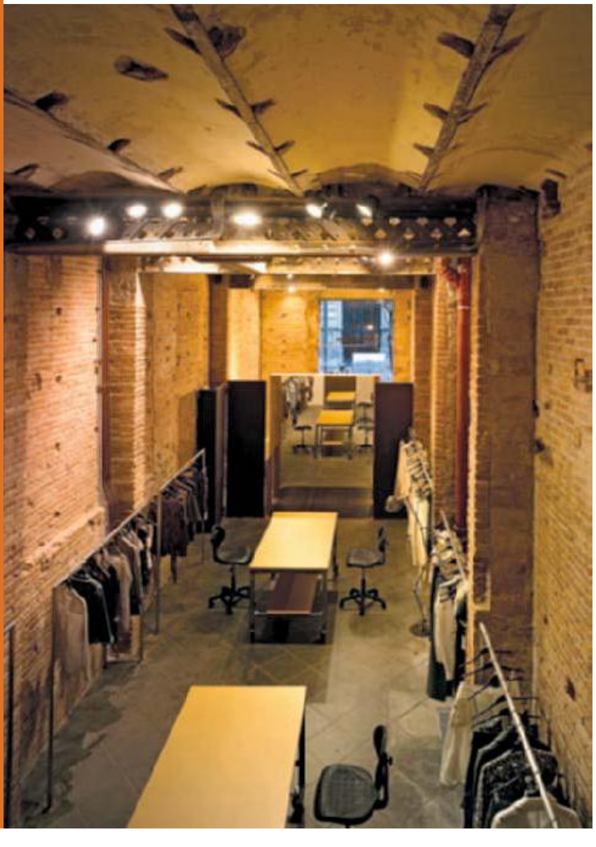
Approaching the boutique's front entrance requires crossing a gangway surrounded by planes of water (right). Once inside, pools of light illuminate the merchandise on custom wall-mounted fixtures and tables.

1. *Gangplank entry*
2. *Entry corridor*
3. *Agora*
4. *Staff kitchen*
5. *Stair to mezzanine studio*
6. *Draped ceiling*



Project: *Julie Sohn boutique, Barcelona*
Architect: *CCT Arquitectos—Conrado Carrasco, Carlos Tejada, principals in charge*
General contractor: *D'Pac Construcciones*





The shopping experience culminates in the "agora," where the pyramidal dropped ceiling hovers over the room (above). Original barrel vaults remain exposed in the service zone (left), which parallels the entry corridor.

volumes to the structural brick wall to serve as hanger and shelving units. The architects liken these display elements to giant picture frames, which nip the corridor's waistline and gently push the visitor into the space. To draw one's eye down the corridor, CCT divided it in two by snaking a long, folded Cor-Ten steel display table down the center.

The display table parallels a new dropped ceiling, a series of rhomboid and trapezoidal forms fabricated in painted wood that the architects compare to "a great starched cloth." Besides hiding mechanical systems, this element also leads shoppers into the heart of the store, a square "agora" where salespeople engage clients in conversation. Display units are mounted along the agora's walls, while walnut and Cor-Ten tables and vitrines sit just within the outline of the ceiling. The arrangement again directs traffic, moving garment buyers toward the perimeter, and accessory and shoe mavens into the ring of display tables.

The circulation is so well prescribed that shoppers may not notice a Cor-Ten door in the agora. Behind it lies the second arm of the U, where the original ceiling remains uncovered and crowded rolling racks replace the wall-mounted units. Sohn says she creates clothes for her own closet, and in this back-of-house space, one grasps the source of her inspiration as well as CCT's. ■

door

window

cabinet

grips

sinks

faucets

towel bars

hooks

hinges

lighting

tile

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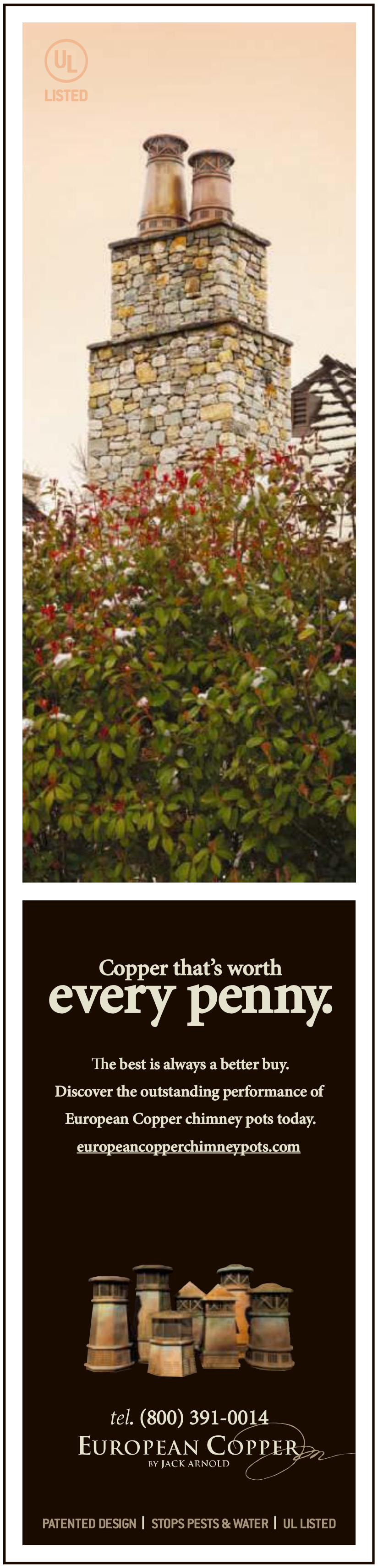
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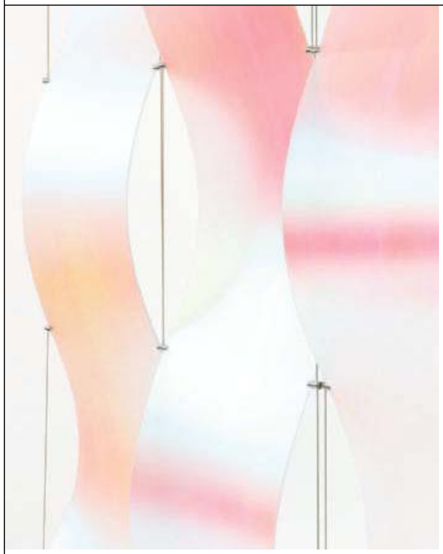
Interiors Products

◄ Carpet and tile chic

Mannington Commercial has introduced the new Get Floored carpet collection as well as additions to several of its tile lines. Get Floored is available in three patterns: Tye Dye (left), playing on the movement of swirling color; Lava Lamp, an interpretation of a circular pattern displaying depth and movement from any angle; and Paint, an urban-chic linear pattern. Twenty-nine colors were added to the Vinyl Composition and Premium Visual tile lines (several shown above), for health-care, education, and retail applications. Mannington Commercial, Calhoun, Ga. www.mannington.com **CIRCLE 207**



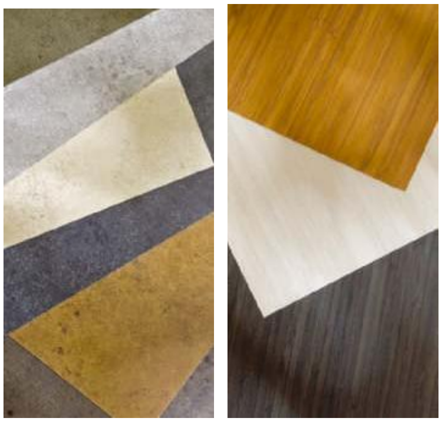
◄ For dazzling surfaces

Dichroic is the latest material added to 3form's portfolio of resin products. Made of the company's signature ecoresin, Dichroic has an interlayer of light-refracting film that seizes light and manipulates it to create engaging effects, lending the panels an ethereal, luminescent quality and a palette of ever-changing hues. Available in two versions with different spectral ranges—warm Lunar and cool Solar—and two finishes: Sandstone for striking color shifts, and Supermatte for soft, white-washed color with gentle transitions. Dichroic is easy to clean and can be used in a range of environments. 3form, Salt Lake City. www.3-form.com **CIRCLE 208**

► New look for the workplace

Haworth will introduce the Planes collection of tables, carts, credenzas, podiums, and interchangeable boards with easel and wall applications this month at NeoCon in Chicago. The first phase of products for conference and collaborative spaces features multiple top thicknesses and shapes including round, square, pebble, rectangle, and hexagon. Boasting the ability to flip, store, share, conceal, connect, and plug in, the collection includes mobile tables with a flip top and mobility to reconfigure for collaborative environments. A second phase, including training, sit-to-stand, and café applications, is planned for the future. Haworth, Holland, Mich. www.haworth.com **CIRCLE 209**

Interiors Products



► Contract laminate collection

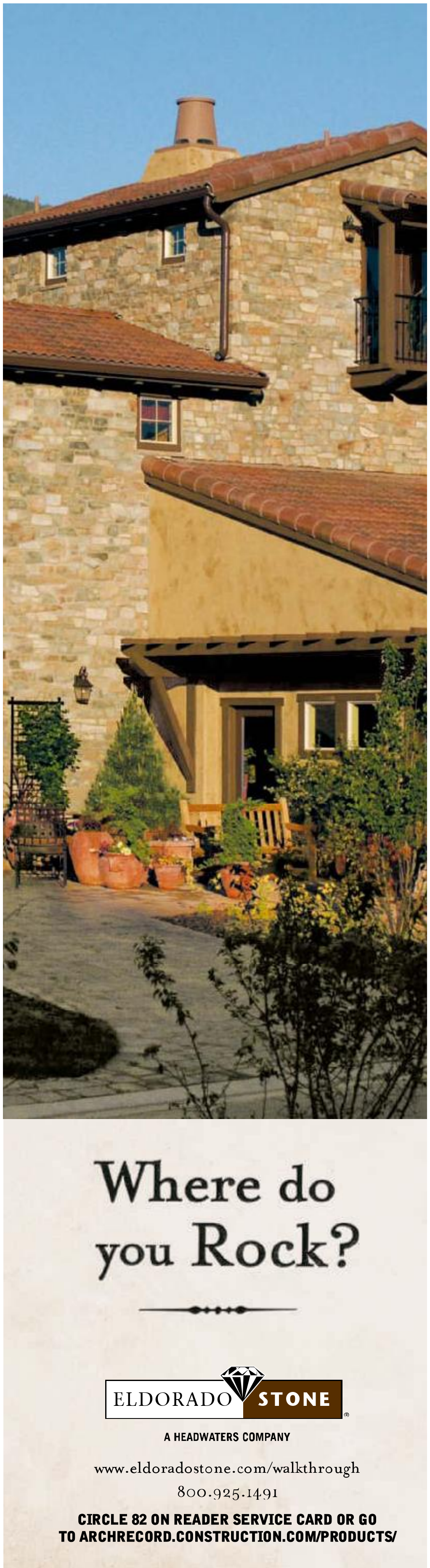
Wilsonart intends to change its image with the biggest decorative laminate launch in its history. The new Wilsonart Contract brand, which includes 44 new designs, was created specifically for interior designers, architects, and contractors who put laminate into offices, stores, hotels, restaurants, hospitals, and clinics. The line includes the first soapstone-inspired laminate (near right) in six design options: Tan, Pearl, Sable, Flame, Green, and Oiled. The Eastern Accents Series (far right) features three simple, linear, vertical-grain bamboo patterns and texture highlighted with charcoal, gray, taupe, and golden tones of brown. Wilsonart International, Temple, Tex. www.wilsonartcontract.com **CIRCLE 210**

◄ A new look beneath your feet

Gensler recently designed the new corporate offices of Seyfarth Shaw, a large legal practice in Chicago. More than 24,000 square feet of Chilewich's Plynyl Terra Basketweave tile was specified for the secretarial stations located in each corner of the floors. The woven fabric for the vinyl floor tile has been reengineered to ensure the tile edges stay sharp and clean. The signature Basketweave pattern uses bicolored yarns to provide maximum durability and ease of maintenance. The tile backing, which includes approximately 15 percent postindustrial recycled content, provides cushion and dimensional stability through the use of two layers of vinyl and an intermediary nonwoven stabilizing layer. Chilewich, New York City. www.plynyl.com **CIRCLE 211**

► A bounce in your step

Freudenberg Building Systems presents nora sportsfloor, an impact-resistant sports floor for school, recreation, and multipurpose areas. The product, a rubber covering with a matte, antislip surface, is an ideal solution for applications such as indoor tracks. Easy and inexpensive to maintain due to a dirt- and stain-resistant surface, its shock-absorption qualities cut down on the risk of injury and reduce bruising. Environmentally friendly, nora sportsfloor is made of high-quality rubber, abundant natural fibers, and environmentally compatible color pigments. Freudenberg Building Systems, Lawrence, Mass. www.norarubber.com **CIRCLE 212**



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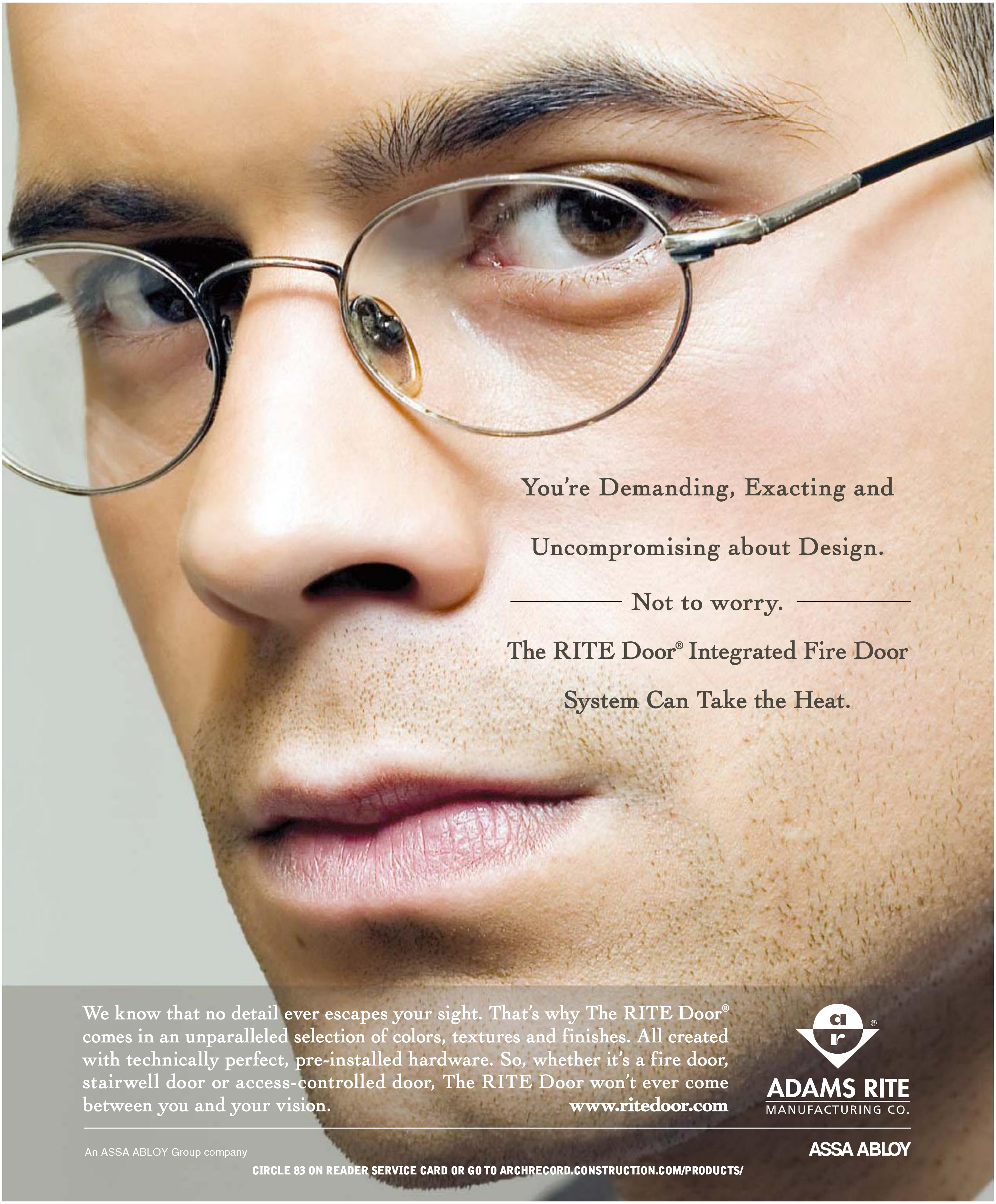

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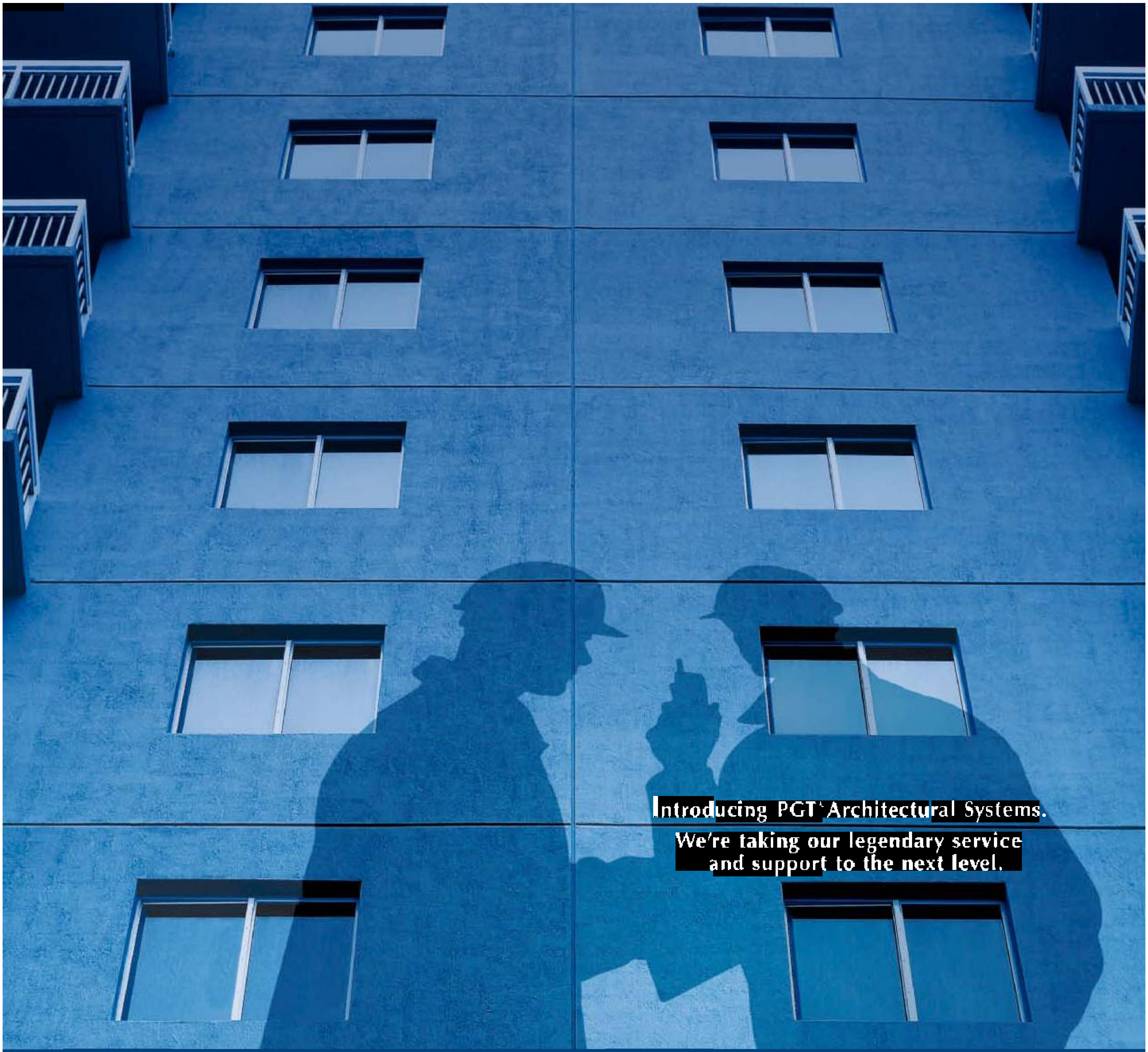
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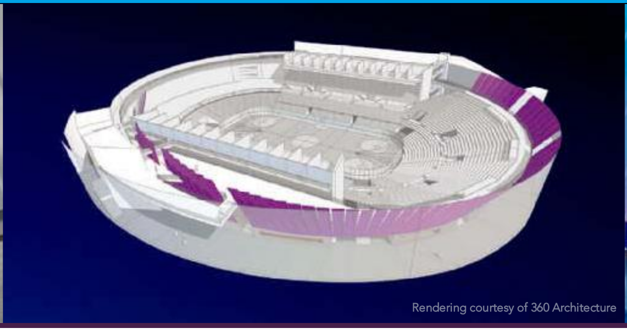

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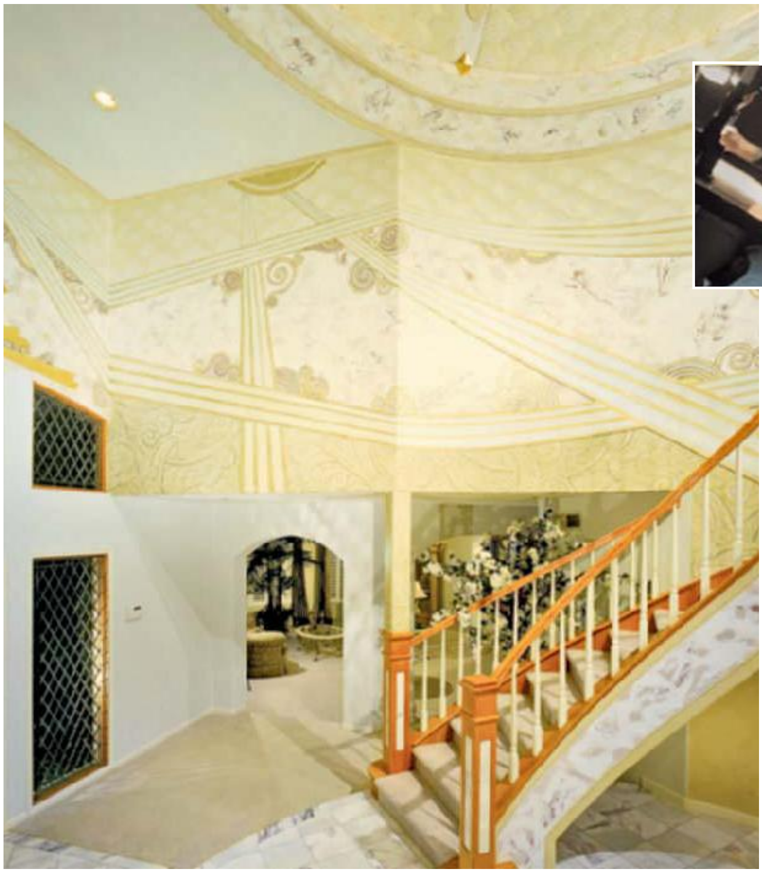
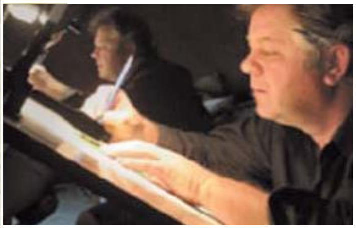
Product Focus Renovation & Restoration

Our roundup includes techniques and products **for preserving, renovating, and restoring**. For the latest trends and products, visit the Traditional Building show, held in New Orleans from October 17 to 20. *Rita Catinella Orrell*





Plaster relief artist Steve Selos at the drawing board (left). The grand entryway (far left) for a private residence remodel that took Selos and his team nine months to complete (detail, below).

Keeping the art of plaster relief alive and well in California

Originally from Swindon, England, plaster relief artist Steve Selos served a formal four-year apprenticeship in the United Kingdom and honed his craft on European textural ceiling projects. He later moved to Germany, where he worked for the cladding, coating, and restoration-systems manufacturer Sto Corp. on the development of an attachment system for its EIFS products. Selos emigrated to the United States in the early 1980s and currently runs his company, Selos Creative Finishes, out of Alta Loma, California.

Focused on creating high-end plaster artwork for walls and ceilings, the artist currently spends about three quarters of his time on residential work and the remainder on commercial projects, such as private offices, churches, and restaurants. Selos combines sculpture, design, and painting on both traditional and contemporary surfaces, and his repertoire of techniques includes bas-relief, Venetian plaster, and trompe-l'oeil. He has copyrighted a number of his more unusual techniques, and like other artists, signs his work. Over the years, he has developed a devoted client base, and nearly 70 percent of his work is for repeat clients.

While in Europe, Selos worked on historic renovation, including molding repair, but his focus has shifted to new-build and general renovation. "My approach to the renovation of things is that it's invisible," explains Selos, who sometimes collaborates with paint experts in order to help create a seamless extension of the existing finishes.

Selos's low-key approach extends to how he works with his clients; he describes himself as a tool for the builder or architect. "I'm just an applicator of the client's wishes—until they ask me what I think I can get out of the architecture using natural light, or traffic patterns, or architectural features, and then I highlight or calm down whatever is there." To do so, Selos incorporates long, sweeping arches or strong straight lines to achieve the impact or emotion he is trying to evoke. For a grand entryway for a private residence ("one of the pinnacles of my career"), he used a range of techniques, including carving, trompe-l'oeil, and gold leaf. "I wanted to draw everything I could into the grandness of the architecture." Selos Creative Finishes, Alta Loma, Calif. www.selosart.com **CIRCLE 213**

Products Renovation & Restoration

▲ Helping to keep the light on

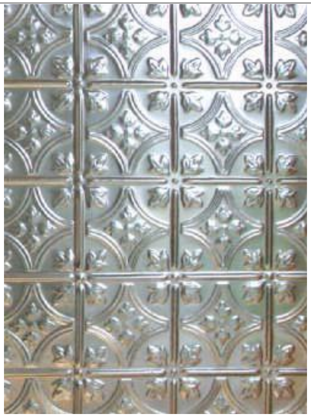
Jeld-Wen has selected two landmark lighthouse projects as part of this year's Reliable Lighthouse Restoration Initiative: Thomas Point Shoal on Chesapeake Bay and Wind Point Lighthouse on Lake Michigan. For the Thomas Point Shoal (above right), Jeld-Wen will replace eight windows and two entry doors. To preserve the lighthouse's architectural integrity, primed Custom Wood Windows (above left) with the AuraLast wood process will be installed and then painted. Jeld-Wen Windows and Doors, Klamath Falls, Ore. www.jeld-wen.com **CIRCLE 215**

▼ Wait a second ... the student union was once what?

Functioning as a Denver brewery from 1866 to 1966, the Auraria Higher Education Center's Tivoli Student Union building also served as a mall before becoming a student union in 1994. As part of a $20 million makeover, more than 180 window units were replaced with custom, energy-efficient, historically stylized windows from Kolbe. The window-replacement process was challenging since virtually all of the openings varied in dimension and several different window profiles, brick facings, and mortar types needed to be matched. Kolbe & Kolbe Millwork Co., Wausua, Wis. www.kolbe-kolbe.com **CIRCLE 214**

◄ Curb appeal

Cambridge Architectural's Facade mesh system was used to visually differentiate the exterior of an apartment building in Washington, D.C., in conjunction with a $21 million renovation of the building, which included a new facade, windows, storefronts, and ventilation system. The mesh system was installed vertically as a backdrop for the large, illuminated 1330 sign on the front of the brick tower. As part of the facade rehab, the metal fabric was embedded directly into the structure. Cambridge Architectural, Cambridge, Md. www.cambridgearchitectural.com **CIRCLE 216**



◄ Historic look of tin

Armstrong's Metallaire product line features 12 styles of decorative metal ceiling tiles. Offered in five finishes, including brass, copper, chrome, white, and stainless steel, designs are available in 2' x 4' for direct application to an existing ceiling through the use of furring strips, and 2' x 2' for drop-in grid applications. Tiles are priced at approximately $4 to $10 per square foot. Armstrong Building Products, Lancaster, Pa. www.armstrong.com **CIRCLE 217**

► Reliable fire-stopping

In an effort to get consistency in applications and code compliance on remodeling and renovation work, and as part of the overall risk management and loss prevention strategy for the complex, managers of San Francisco's Embarcadero Center Complex utilized a Barrier Management Program to assure the reliability of fire and life safety features and systems. The EZ-Path fire-rated pathway (shown) was used for firestopping cable penetrations in the buildings. Specified Technologies, Somerville, N.J. www.stifirestop.com **CIRCLE 218**

► Not a striptease

Applied by brush, roller, or spray equipment, Smart Strip paint stripper by Peel Away will remove up to 15 layers of architectural and/or industrial coatings from virtually any substrate. A water-based, self-sealing paste, Smart Strip stays wet for 24 hours or longer, softening and separating the coatings beneath. Classified as nonhazardous, Smart Strip is pH neutral, does not contain caustics or toxic chemicals, and has zero VOCs. Dumond Chemicals, New York City. www.dumondchemicals.com **CIRCLE 219**

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CAPITOL IMPROVEMENT

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Metal Roofing Panels

Mandarin Oriental Hotel
Washington, DC
Architect: Brennan Beer Gorman Monk Architects
General Contractor: Armada Hoffler Construction
Roofing Contractor: Progressive Services, Inc.
Color: Hemlock Green
Profile: Redi-Roof Batten Panel

It's difficult to improve upon the view of the Washington Monument and other icons comprising the DC skyline, but the newest landmark, the Mandarin Oriental Hotel, adds a dramatic entry to the capitol at the 14th Street Bridge.

This nine-story hotel is topped with a striking mansard roof utilizing 20,000 sq. ft. of PAC-CLAD® Redi-Roof Batten panels finished in Hemlock Green. The Mandarin Oriental is part of The Portals, a mixed-use development that is the largest project in the history of Washington, DC. Brennan Beer Gorman Monk Architects designed the luxury hotel in the French style while reflecting the city's iconic neo-classic architecture. The nearly vertical roof installation was done by Progressive Services, Inc., of Dover, PA.

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Product Briefs

▲ Alternative roofing

DaVinci Roofscapes has developed new synthetic slate and shake shingles as a long-lasting alternative to the high cost, installation and maintenance hassles, and safety hazards of natural materials. DaVinci offers the widest variety of off-the-shelf slate color blends, including 19 earth-tone colors and seven traditional blends plus solid gray and black. Among the new designs are Weathered Green Blend (above right), with verdant and sylvan greens, grays, and tans interlaced in an earthy and pastoral pattern; a classic slate-gray blend; Vineyard Blend, a mixture of tans, greens, and purples; and Aberdeen Blend, a color-patchwork medley that incorporates earthy browns, grays, greens, and purples. DaVinci Roofscapes, Kansas City, Kan. www.davinciroofscapes.com CIRCLE 220

▲ Looking up

Naturalite Skylight Systems was selected to provide the skylights for the Tanforan Shopping Center in San Bruno, California. The site, originally a racetrack built in 1899 and later used as an internment camp for Japanese-Americans during World War II, was transformed into a mall in 1971. In 2003, the building was demolished to make room for a new mall designed by L.A.-based Altoon + Porter Architects. General contractor Whiting Turner Construction of Pleasanton, California, and skylight contractor Vogel and Associates of San Carlos, California, selected custom BMS 3000 skylights, in several shapes and sizes, along with low-E insulating glass from AFGD as the infill. The skylight framing systems feature a clear anodized finish. Naturalite Skylight Systems, Dallas. www.naturalite.com CIRCLE 221

Natural Light

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Product Briefs

► Getting a better handle on it

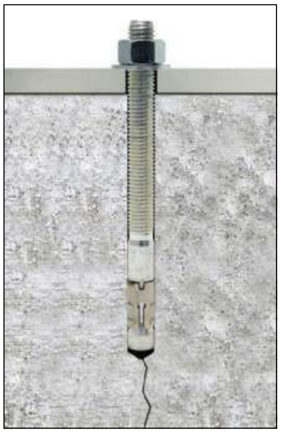
Rocky Mountain Hardware has introduced three new product lines: the Metro Collection, the Designer Collection, and the Tile Collection. The pure lines of the Metro Collection, such as the Metro escutcheon and Luna knob in brushed silicon bronze (left two), complement contemporary styles. The Thumblatch entry set in brushed white bronze with black leather (right two) is an example of the Designer Collection, which incorporates textures and hues ranging from rich chocolate leather to a tapestry pattern reminiscent of hand-tooled leather. The Tile Collection features items styled with sleek lines and a variety of hand-etched organic patterns. Rocky Mountain Hardware, Windsor, Calif. www.rockymountainhardware.com **CIRCLE 222**

▼ Serviceable sink systems

According to Sloan Valve Company, its 7000 series SloanStone solid-surface lavatory systems are one of the fastest-installing and most easily serviceable sink systems on the market. The new double- and triple-station systems are the only lavatories to incorporate true point-of-use sensor faucet operation for accurate, water-efficient hand-washing. SloanStone withstands heat and resists stains and chemicals. To better handle runoff and prevent clogs, the system features design-integrated overflows for each supply, as well as grid strainers that lead to separate waste lines. The new continuos-curve basin design, in 24 solid and speckled finishes, eliminates the institutional look of most commercial lavs, yet stands up to any high-use restroom application. Sloan Valve Company, Palatine, Ill. www.sloanvalve.com **CIRCLE 223**

► Passes the test

Simpson Strong-Tie presents the Strong-Bolt, the first postinstalled anchor that is code-listed for use in cracked concrete. New design provisions referenced in the 2003 and 2006 International Building Code require more stringent testing to prequalify anchors installed in concrete that is susceptible to cracks. The Strong-Bolt is one of the first wedge-type expansion anchors to obtain a code listing under the new test criteria for anchors installed in concrete that is susceptible to cracks. The anchor is listed for use in normal-weight and lightweight cracked and uncracked concrete as well as in moderate and high seismic zones. Simpson Strong-Tie, San Francisco. www.strongtie.com **CIRCLE 224**



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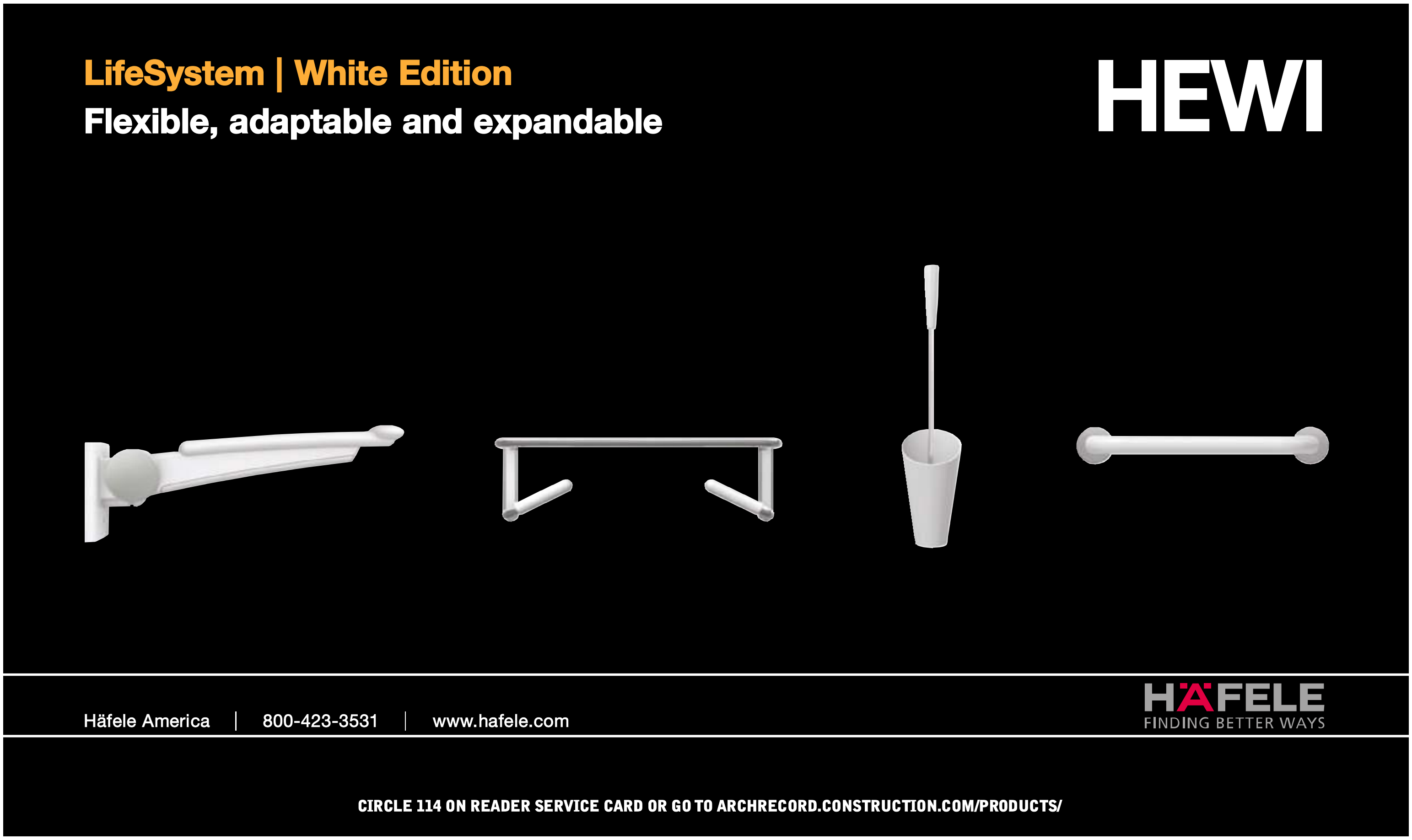
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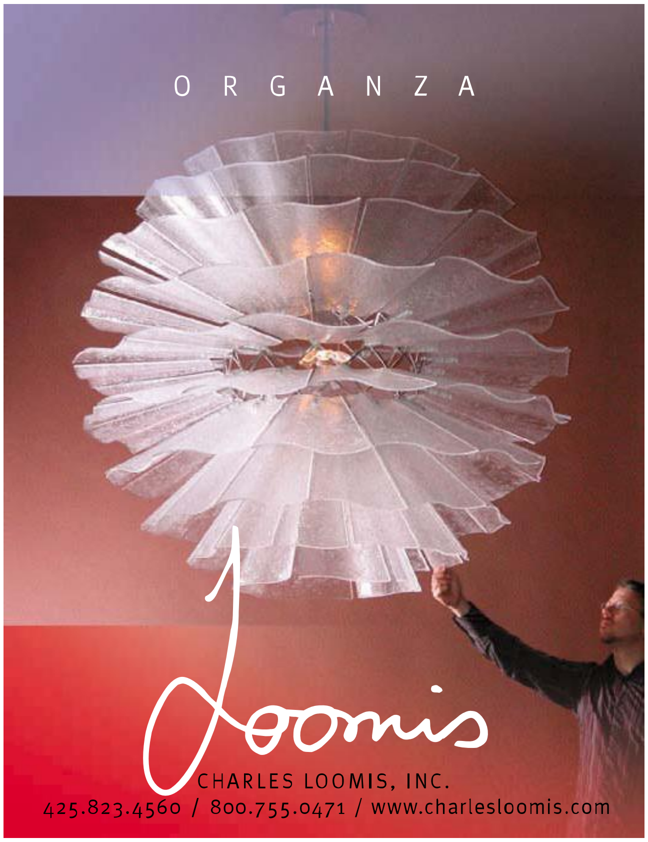
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Product Resources Literature

Under a blanket of steel

The Beauty Behind Our Metal is a brief brochure from McNichols Designer Metals. Half of its pages are comprise full-page images of McNichols's woven, perforated, and expanded metal designs. The text is mostly introductory and includes ways to incorporate the metal products into architectural designs. McNichols, Tampa. www.mcnichols.com

CIRCLE 225

Clarity you can see, clearly

PPG Industries now offers a sample kit for its Extra-Heavy Starphire Ultra-Clear Glass. Each kit contains one lite of ¾" Starphire glass and another of conventional clear glass in the same thickness. The kit demonstrates the clarity of the PPG product compared with the slight tint of traditional clear glasses. PPG Industries, Pittsburgh. www.ppg.com

CIRCLE 227

New ways to see color

A variety of selection tools display the 2,016 colors in the new *Dulux Global Color Palette* for professional use. *Colour Futures* forecasts trends for 2007, noting 56 colors that represent five lifestyle themes for the coming year, as well as announcing transitions in each color family. ICI Paints, Strongsville, Ohio. www.icipaints.com

CIRCLE 226

Putting it to the test

Context, a new catalog concept from Chicago Metallic, features 27 ceiling designs photographed in actual buildings. Accompanying each installation is the architect, name, and location; the type of ceiling and Chicago Metallic materials used; and an outline of the specific design challenge. Chicago Metallic, Chicago. www.chicagometallic.com CIRCLE 228

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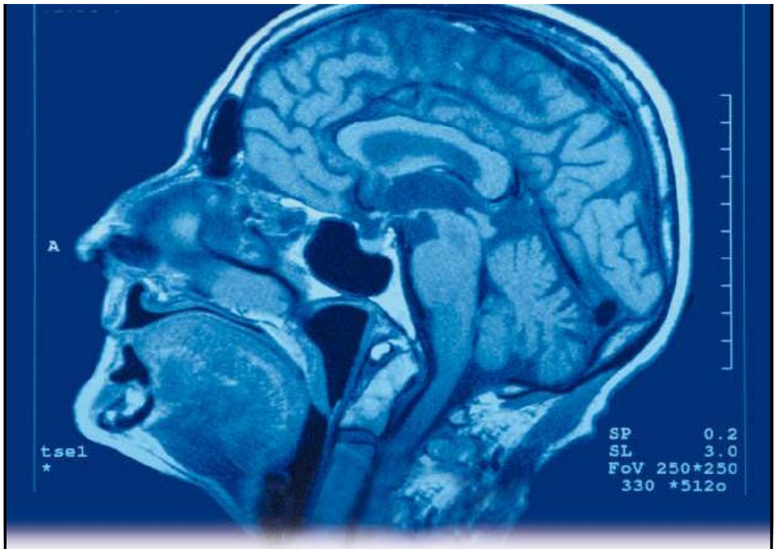

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MRI machines have changed the face of medicine. They allow physicians to quickly make a thorough diagnosis without the need for costly and even painful exploratory surgery. Installation of these machines, however, can be a challenge for design professionals. They're too large to fit through most doorways and have even more trouble with elevators.

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Product Resources On the Web

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Designers can reach the media by posting their work at this Web site. The 2006 winner of *Building Design+Construction* magazine's "Best of the Web" award, Plaid Robot hosts member-submitted high-res images, which the media can download with approval. Pitches and press releases can be sent to publications that register with the site. Editors and freelance writers can search for design work, but designers do not have access to each other's posts. A message board is being developed for the media to post exactly what it is they are searching for.

www.trespa.com

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International panel manufacturer Trespa's Web site lists pages of ideas for using its products, including images of panels on existing buildings. Brochures, CAD drawings, and certificates are available for download. A disclaimer explains that the site was specifically developed for browsing with Internet Explorer 6 and a screen resolution of 1024 x 768. Using other browsers, an older version of Explorer, or other screen resolutions may lead to visual distortions.

www.charlesandhudson.com

Charles and Hudson

While Charles and Hudson is a do-it-yourself blog, it might be an interesting read for professionals. Topics covered include remodeling, design, repair and maintenance, tools and products, real estate, restoration, build-it-yourself, and green building. Founded in 2005, the blog is run by *This Old House* senior Web producer Timothy Dahl, although the site has no affiliation with the magazine. The site is filled with helpful information, as well as dozens of links to other blogs and magazine Web sites.

www.impactltg.com

Impact, the St. Louis–based spec-grade architectural lighting fixture manufacturer, has added a product gallery to its Web site, which can be accessed from the vertical navigation bar at the left of the home page. A grid of thumbnails displays dimensions and names for a number of lighting fixture designs, and each image can be enlarged for closer viewing. However, there is only one image of each product and specific information is limited, a feature that could be improved.

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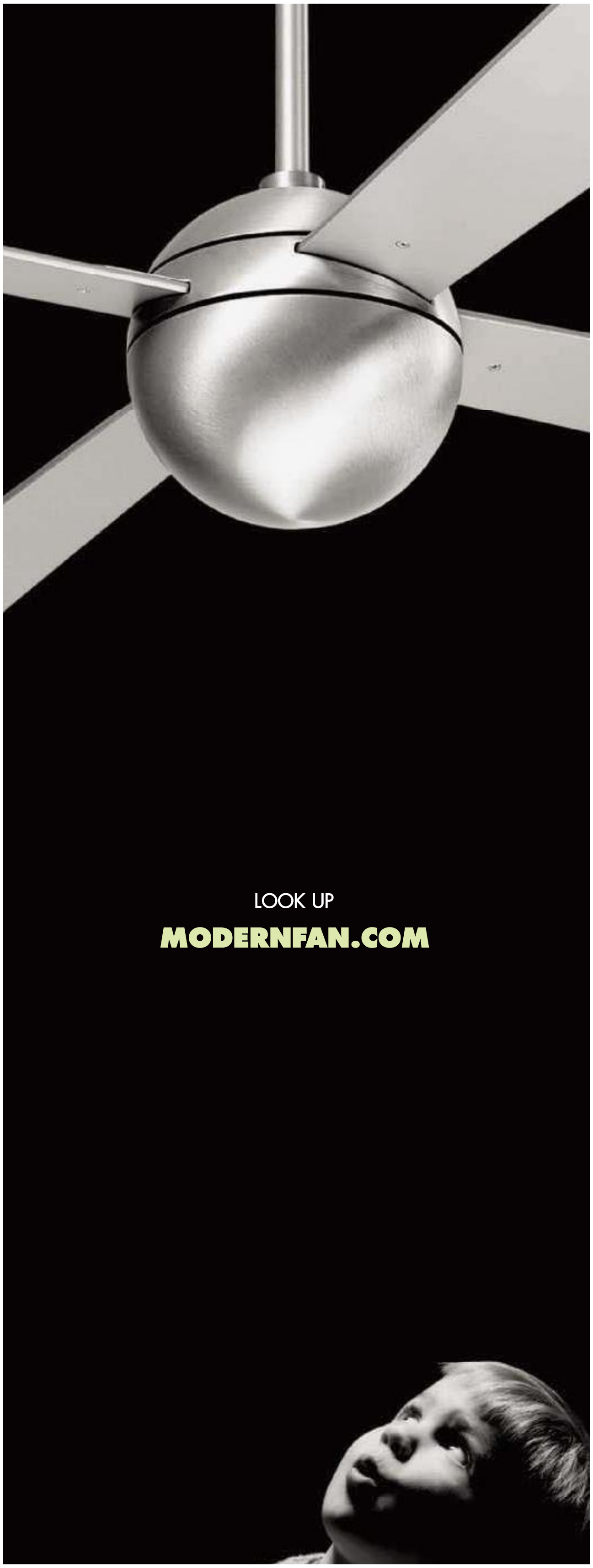

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REMAKING NEW ORLEANS *(continued from page 92)*

his mind than ornamental gingerbread and authentic replacement windows. A barrier to previous campaigns to put blighted buildings into the hands of new owners had been the tedious task of clearing titles. Finding owners was daunting before Katrina and is often impossible now. Another hurdle is the law that gives owners three years to pay off taxes and reclaim properties. Williams hopes to petition the state legislature for a liberalization of that constraint to shorten the time owners have to reclaim tax-delinquent properties. Some experts have put the tipping point for the city's return to viability at a population of at least 350,000 residents versus its pre-Katrina population of 480,000. Estimates say about 223,000 people currently live in the city.

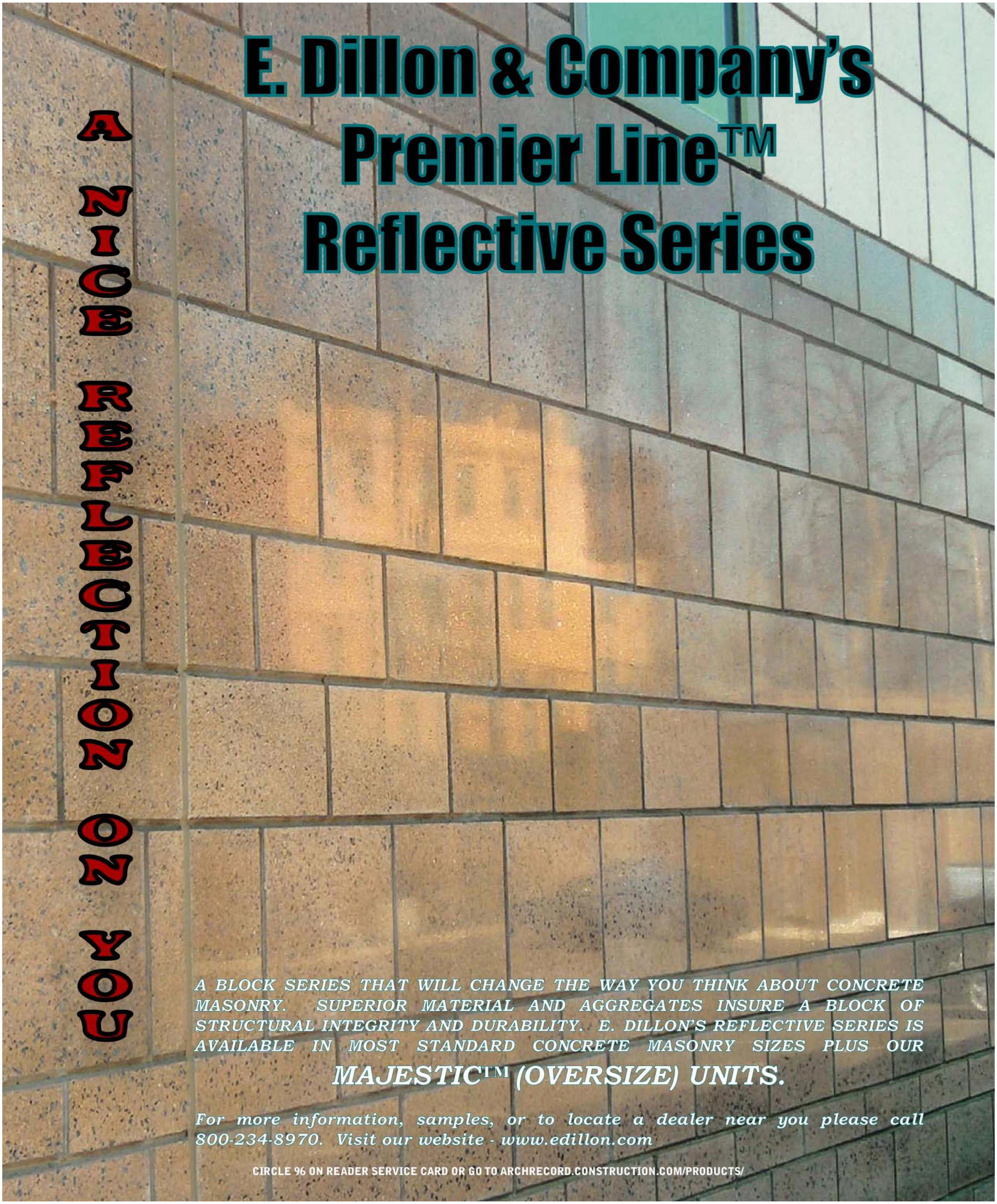
Angela O'Byrne, an architect and advocate for multifamily housing, subscribes to the "higher density on higher ground" school of thought when it comes to the city's future. "People in our community still resist what I consider concepts of smart growth that forward-thinking cities all over the world have accepted. They link density with renters and renters with poverty," says O'Byrne, a former president of the New Orleans chapter of the AIA and president and owner of Perez Architects. "You can achieve the objective of mixed-income housing without sacrificing quality if it is done correctly." O'Byrne says the key is the right amount of investment going into the developments and quality management after that.

O'Byrne points to Oakland's award-winning Mandela Gateway as an example of the kind of development she would like to see in New Orleans. The mixed-income, mixed-use development that replaced a dilapidated public housing complex includes 168 units of affordable rental housing and owner-occupied town houses. Developed by the Oakland Housing Authority and nonprofit BRIDGE Housing Corporation, the rental component—which opened in 2004—has spurred commercial and residential development nearby.

What others see as the greatest threat to the city's future is the temptation to get stuck in the past. "I do have some concerns that the city will be built back in an artificial way," says E. Eean McNaughton, Jr., an architect in private practice and a member of the Regional Planning Commission. "I believe that we should lie down and die to protect what is original to our city. But if we do it right, what is built now will reflect this place at this time."

McNaughton acknowledges that this concept is often a hard sell in New Orleans. And to that point Sean Cummings, a local developer who currently serves as the executive director of the New Orleans Building Corporation's ambitious riverfront development initiative, says those who shape the landscape—builders, designers and planners—have a duty to educate the public. "A city is like a human being, it is supposed to evolve," he says. "Where has it ever worked to do the same thing over and over again?" he asks, noting, "It's such a short-sighted approach to re-creating a city. You look to cities like Chicago or New York or cities even older than New Orleans like Barcelona; you'll find a mix of the old and the new. These places all have a strong sense of place. Our challenge is to create architectural beauty of this time and have it be obviously a part of New Orleans."

Regardless of which of these contrasting visions prevails, the challenge of the Katrina catastrophe has overwhelmed the nation's traditional methods of cleanup and recovery. The scale of this disaster was never contemplated by the existing federal law: 134,000 housing units damaged of 188,000 occupied before the storm, and 68,000 rental units damaged of 100,000 available pre-Katrina. Moreover, in a city where 113,000 units are over 50 years old, most of the city's historic housing is at risk. The question now is not whether to preserve or develop New Orleans, but how to do both. ■



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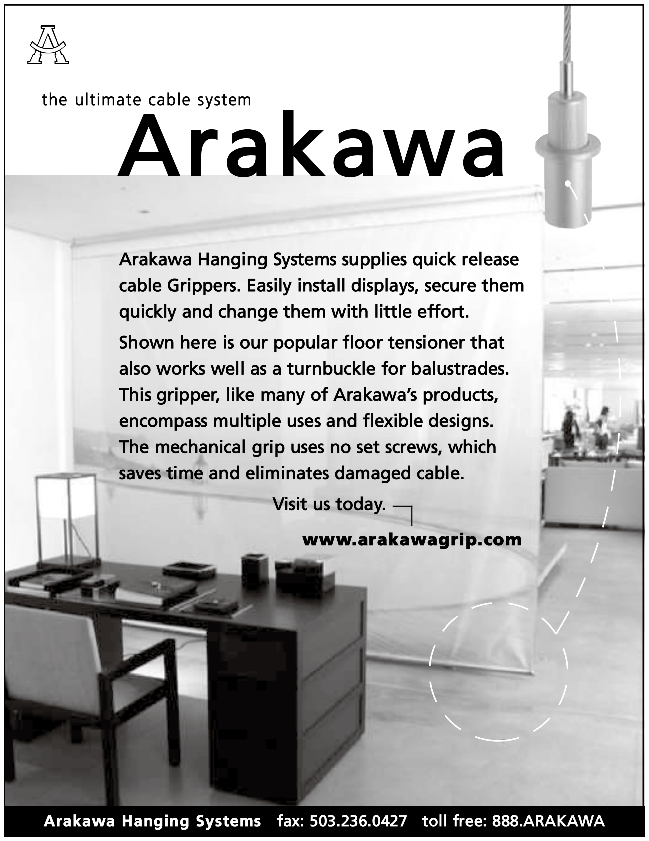
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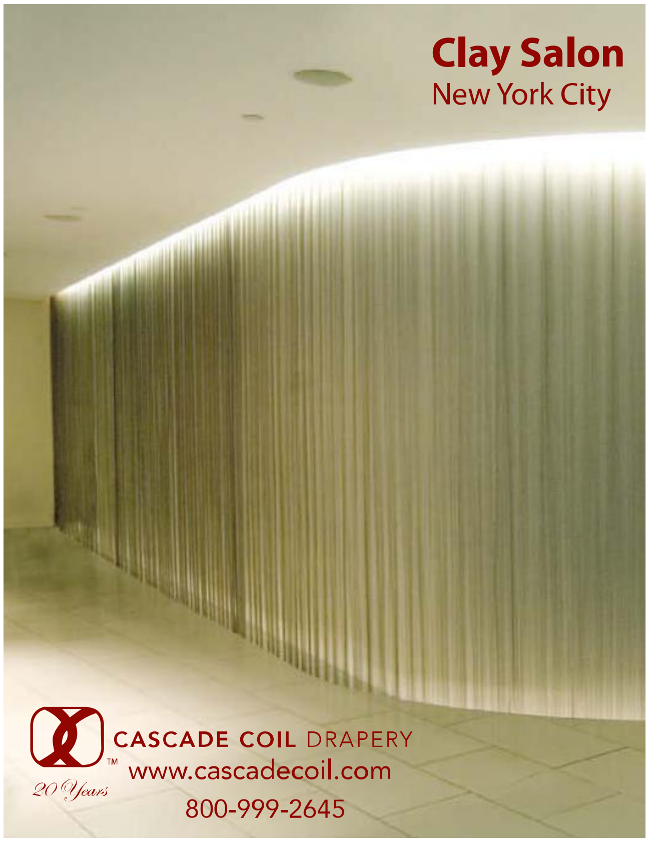
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FIRMINY *(continued from page 115)*

contributions in effect relax Le Corbusier's original tendencies toward an oppressive self-seriousness. This is most evident in Oubrerie's handling of the two aspects of the design that remained largely undetermined during the work with Le Corbusier, the entryway and roof. All of the sketches and models show the roof conceived as part and parcel of a massive monolith. But forms in the hyperbolic paraboloid family are infinite shells with no intrinsic top; diagrammatically, therefore, any roof must be a section cut by a plane. At Chandigarh, Le Corbusier solved the problem with a cap bedecking the hyperbolic parabaloid surface like a crown. At Firminy, Oubrerie's solution is more satisfying conceptually and visually. Instead of a cap, he fit a checkerboard of concrete panels just inside the lip of the hyperbolic paraboloid surface. The panels cover the black roofing membrane to give the sense of a monolith, but also reveal the membrane at the circumference to suggest a void.

To complete the entry design, Oubrerie revisited an earlier scheme and erected a solid outer wall to run the length of the bridge, cutting off views and focusing attention inward on the church-as-object. But just as the bridge joins the portico, Oubrerie punctured the wall with a large opening to reveal one last view of the quotidian world, as if to ask whether the decision to leave it behind is final. As noted before, the exterior ramp's geometry requires that the worshiper, once inside the portico, must turn to enter the sanctuary. Oubrerie chose to aggravate, rather than soften, the turn, by dead-ending the path with a blank wall and signaling the turn with an arresting treatment of the door. The darkened, compressed enclosure of the portico heightens dramatically the play of space and light to follow.

José Oubrerie's acclaimed Miller House in Lexington, Kentucky, of 1992.

The fond cunning of Oubrerie's contributions to the church is no accident and confounds the question of whether the building is historic reconstitution or contemporary interpretation. As his incomparable Miller House in Lexington, Kentucky, of 1992 affirms, Oubrerie has long since developed into an architect of rare originality, one who maintains an insatiable interest in contemporary architecture and its discourse. With Firminy, as he has pointed out, "The two features of contemporary interest [are] the shell and its geometrical definition and the continuous floor (influential perhaps in Koolhaas's library in Paris), the spiral that guides and activates the inner transformation from horizontality to verticality."

Oubrerie invented the torqued floor during the work with Le Corbusieer to solve problems created by the church's declining budget and size, but his intuition of its pertinence today is on point. Koolhaas's 1993 competition entry design for Jussieu University Library in Paris, with its continuous, warped spiraling floor, helped spur a line of architectural design research that continues today, including Koolhaas's Seattle Central Library [RECORD, July 2004, page 88]. UN Studio has cited the floor at Firminy as an antecedent to the trefoil circulation in its Mercedes Museum in Stuttgart, Germany [RECORD, November 2006, page 126]. As with any definitive work, the Eglise Saint-Pierre is an interlocutor in many current conversations—conversations that beg the question of new or old, historic or contemporary. ■

Sources, see page 138. To rate this project, go to **architecturalrecord.com/projects/**.

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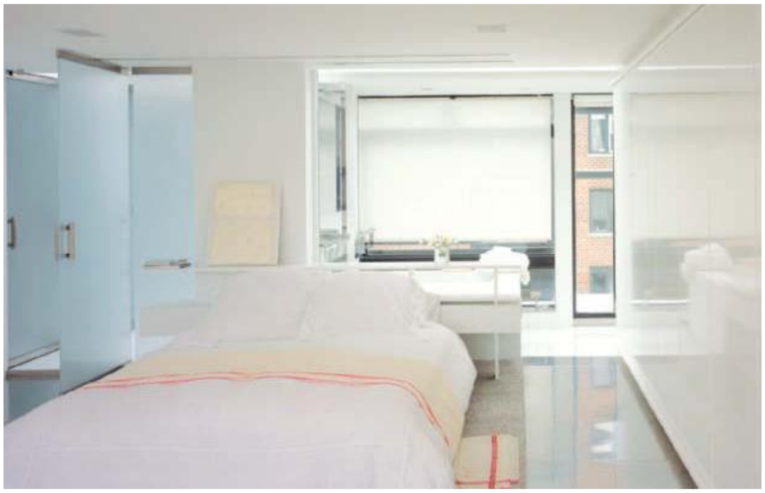
RUDOLPH PENTHOUSE *(continued from page 121)*

presented another challenge. The glass studio projecting over the street to the west rested on sagging steel beams. So the team inserted new steel within the webs of the I-beams and rewelded them to shore up a cantilevered portion of the penthouse. Elsewhere, they replaced steel framing members that projected out to the East River and to the south, where a neighbor's new brick wall blocks views. (The legality of the action is still being contested.) They also had to redo much of the west, north, and south facades' stuccoed surfaces, which covered metal studs or concrete block.

Needless to say, working out the construction sequence for the new insertions proved a logistical nightmare. The real headache in the 20-month process was the installation of new cabinetry, shelving, and other millwork. One challenge was to get it to fit precisely once finishes were applied. The coping around the steel beams didn't make inserting the new cabinetry any easier, notes Bernheimer. So the team installed the unfinished millwork, then took it down, painted, finished, reinstalled it. Since exterior overhangs precluded the use of cranes to move in large pieces, the team had to rely on the building's tiny elevator—which meant more disassembling of large elements.

The tortuous job was finished last fall. Though sparer than Rudolph's original, that may change as the owner fleshes out the place with furniture and art. Asked what Rudolph probably would think of the latest version, Della Valle and Bernheimer say they both hope he would have liked it: "We challenged ourselves to the limit. Without mimicking him, we took what he created to generate something new—yet stay true to the idea." Due to the entire team's imagination and craft, the apartment remains a testament to Rudolph's basic concept. It's too bad that, unlike Soane's chef d'oeuvre, it doesn't belong to the state—nor is it a city landmark. Its future will always depend on the kindness of owners. ■



On the top level of the penthouse, the master bedroom looks out to both the east and west terraces, and opens onto the master tub room, as it did in Paul Rudolph's time.

Sources, see page 138. To rate this project, go to architecturalrecord.com/projects/.

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Dates & Events

New and Upcoming Exhibitions

AIA150

Studio @ the Center: Lighting Design
New York City
June 7–August 4, 2007
This exhibition will highlight the work of 12 students from the High School of Art and Design who are taking part in the intensive after-school program that exposes them to one area of design through interaction with design professionals. At the Center for Architecture. Call 212/683-0023 or visit www.aiany.org.

IDEO Selects: Works from the Permanent Collection
New York City
June 22, 2007–Jan. 20, 2008
IDEO, a leading innovation and design firm for more than 20 years, mined the Cooper-Hewitt's permanent collection as the fourth guest curator in the exhibition series presented in the Nancy and Edwin Marks Gallery. IDEO will organize works around the theme of "design thinking." The exhibition objects range from the 16th-century to the present, and despite their diversity of intent, media, and context, reveal a shared story about the ways in which the designer is called upon to solve everyday problems. At the Cooper-Hewitt, National Design Museum. Call 212/849-8400 or visit http://ndm.si.edu/.

Young Architects Program
New York City
June 27—September 8, 2007
This exhibition features the proposals of the five finalists of the MoMA/P.S.1 Young Architects Program. Now in its eighth year, the program calls on emerging architects to create a temporary installation in P.S.1's courtyard, which will serve as the setting for the museum's summertime Warm Up series. The designers present engaging architectural solutions that modulate sun, shade, and water in this outdoor space. This year's finalists included Ball-Nogues (Los Angeles), Gage/Clemenceau Architects (New York), IwamotoScott (San Francisco), Mos (Cambridge, Massachusetts-New Haven), and Ruy Klein (New York). At the Museum of Modern Art. Call 212/708-9400 or visit www.moma.org.

AIA150

AIA/Los Angeles Design Awards Exhibit
Los Angeles
June 28–July 16, 2207
This show offers an opportunity for the public to experience and celebrate the quality and variety of Los Angeles Architecture, showcasing more than 350 Design Awards from 2007 and Next LA entries. At the Broad Art Center at UCLA. Call 213/639-0777 or visit www.aialosangeles.org.

On a Grand Scale: The Hall of Architecture at 100
Pittsburgh
September 22, 2007–January 13, 2008
In celebration of the 100th anniversary of the Carnegie Museum of Art's Hall of Architecture, the museum will present an exhibition surveying

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its collection of nearly 150 plaster architectural casts that Andrew Carnegie created specifically for this magisterial space. At the time of the hall's inauguration in April 1907, the museum joined the ranks of prominent American museums exhibiting plaster casts of monuments from around the world. To ensure the hall's relevance to visitors, Carnegie surveyed architects of the day to determine which casts the museum would acquire. At the Heinz Architectural Center. For more information, call 412/622-3131 or visit www.cmoa.org.

Ongoing Exhibitions

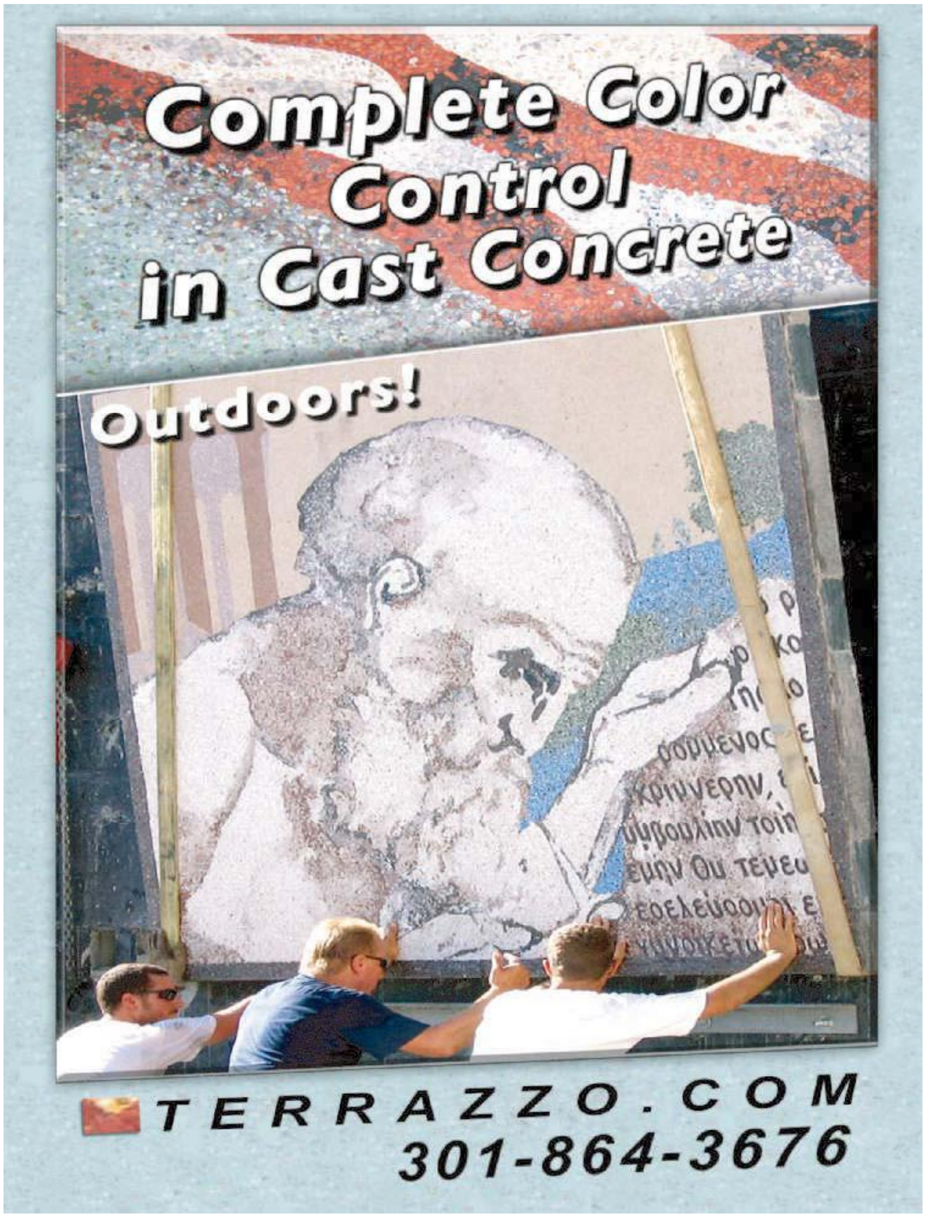
Snapshot 007: Current Houston Design on View
Houston
Through June 16, 2007
The fifth open-call exhibition showcasing architecture, urban planning, preservation, landscape architecture, interiors, furniture, and graphics by more than 100 Houston architects and designers. At Lawndale Art Center. Call 713/348-4876 or visit www.rda.rice.edu.

Powerhouse: New Housing New York
New York City
Through June 16, 2007
This exhibition illuminates the people, projects, and public policies that fuel the affordable housing landscape in New York City, focusing on the New Housing New York Legacy Project (NHNY) competition. At the Center for Architecture. Call 212/683-0023 or visit www.aiany.org.

75 Years of Architecture at MoMA
New York City
Through June 18, 2007
MoMA's Department of Architecture, founded in 1932, was the world's first curatorial department dedicated to the discipline. This installation of drawings and models from the collection demonstrates the development of the department's collecting practice, with several recent acquisitions on view for the first time. At the Museum of Modern Art. Call 212/708-9400 or visit www.moma.org.

NY 150+: A Timeline: Ideas, Civic Institutions, and Futures
New York City
Through June 23, 2007
To commemorate the 150th anniversary of the founding of the American Institute of Architects in New York City, the AIA New York Chapter will feature an exhibition charting the transformation of the city and the profession from 1857 through the present and into the future. Genetic lines tracing the founding of the institute will intersect with various democratic and social movements and the architecture of New York's civic structures. Fifteen buildings and public spaces will be presented with a factual overview and commentary by architects, critics, journalists, authors, and others to illustrate the ideas that define the city's history as well as its future. At the Center for Architecture. For additional information, call 212/683-0023 or visit www.aiany.org.

The Green House: New Directions in Sustainable Architecture and Design
Washington, D.C.
Through June 24, 2007
This exhibition explores the building materials, consumer products, and energy systems that offer attractive and often affordable sources of the latest in home-building technology and products. The show includes a life-size replica of California architect Michelle Kaufmann's Glidehouse, an example of a Green Trend House



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that demonstrates sustainable principles. It also features models, photographs, and drawings of other contemporary projects around the world that show how sustainable principles are applied with innovation and beautiful results. At the National Building Museum. Call 202/272-2448 or visit www.nbm.org.

Open House:
Architecture and Technology for Intelligent Living
Los Angeles
Through July 1, 2007
This exhibition includes nearly 100 teams of emerging designers whose work focuses on technology and domestic architecture. The teams were invited to submit new designs that offer real-life solutions that incorporate the concepts of connectivity, well-being, flexibility, and sustainability. At Art Center College of Design's South Campus Wind Tunnel. Call 626/396-2380 or visit www.artcenter.edu.

2007 AIA New York Chapter Design Awards
New York City
Through July 7, 2007
A showcase of the 2007 award-winning projects in three categories: Architecture, Interiors, and Projects. At the Center for Architecture. Call 212/683-0023 or visit www.aiany.org.

George Yu Architects:
Honda Advanced Design Center
Los Angeles
Through July 8, 2007
This exhibition highlights the architects' transformation of a 6,000-square-foot retail space on the ground floor of a historic building into design studios and conference rooms using the same design technology as the carmaker for the new Honda Advanced Design Center. At SCI-Arc Library. Call 213/613-2200, ext. 328, or visit www.sciarc.edu.

Macro to Micro: Grimshaw in New York
New York City
Through July 8, 2007
The work of Grimshaw, including the Eden Project in Cornwall, England; Caxia Galicia in La Caruña, Spain; and Southern Cross Station in Melbourne, Australia, is well known. The *Macro to Micro* show will familiarize visitors with Grimshaw's growing body of work. Although its first completed projects are quite modest and just beginning to appear—bus shelters, newsstands, and automatic public toilets—much bigger things are well under way. The firm recently completed construction documents for the Fulton Street Transit Center in Lower Manhattan; it is designing an affordable housing complex in the South Bronx; and it has recently been hired to design an expansion of the museum presenting this show. At the Queens Museum of Art. Call 718/592-9700 or visit www.queensmuseum.org.

Devil in the White City Tour
Chicago
Select Fridays and Sundays, through October 28, 2007
The tour is based on Eric Larson's best-selling book and focuses on two events: the World's Columbian Exposition of 1893 and the emergence of America's first serial killer to come to public attention. A slide presentation is followed by a bus tour of Prairie Avenue and Jackson Park with a visit to many buildings and places identified in the book. At the Chicago Architecture Foundation's ArchiCenter. For more information, call 312/922-3432 or visit www.architecture.org.

Lectures, Conferences, and Symposia

Fay Jones Celebration
Fayetteville, Arkansas
June 8–10, 2007
A three-day celebration to honor the legacy of Euine Fay Jones will offer a one-day symposium and two days of tours of his architecture, as well as projects he influenced. The symposium will include invited speakers sharing the legacy and creative genius of Jones. In addition, there will be an opportunity for all attendees to sign up to have a few minutes to share their own work. Call 404/237-8031 or visit www.kebyar.com.

45th International Making Cities Livable Conference on "True Urbanism: Designing for Social & Physical Health," and Exhibition on New Designs for Mixed-Use Urban Fabric
Portland, Ore.
June 10–14, 2007
An international conference for city officials, practitioners, and scholars in architecture, urban design, planning, landscape architecture, transportation planning, health policy, and social sciences. Participants will share ideas and establish working relationships. At the Governor Hotel. For more information, visit www.livablecities.org.

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Eric R. Multhauf Lunchtime Lecture
Chicago
June 13, 2007
A lecture on “William Le Baron Jenney: Elder Statesman of the Chicago School,” by Gerald Larson, associate professor of architecture, University of Cincinnati. At the Chicago Architecture Foundation. Call 312/922-3432 or visit www.architecture.org.

Mundaneum 2007
San José, Costa Rica
June 14–16, 2007
Mundaneum was the name given to one of Le Corbusier’s projects for an eponymous educational world center aiming to serve a group of international organizations located in Geneva, Switzerland, in 1929. Although never built, the project triggered a theoretical argument between Corbusier and Czech critic Karel Teige. This conference brings together speakers on the topic of “rethinking architecture in the Americas,” with utopian visions and nostalgia emerging in times of peace and collaboration during the postwar era. At Universidad del Diseño. Visit www.unidis.ac.cr.

Transparent Form
Tampere, Finland
June 15–18, 2007
The guiding theme for the conference is green values, with the leading theme, “Kyoto Protocol and Architecture—What Can Glass Technology Do for All of Us?” Sessions will cover the following main categories: glass processing, glass in architecture, glass in automotive products, and changing markets. For more information, call 358/3 372-3216 or visit www.gpd.fi or www.glassfiles.com.

The 10th GPD Conference 2007 CSI Show
Baltimore
June 20–22, 2007
The Construction Specifications Institute (CSI) Show includes architects, specifiers, engineers, and contractors for the commercial building marketplace. It provides these professionals with the opportunity to market products to buyers and specifiers in the following industries: local and state government, education, residential, office buildings, and health care. At the Baltimore Convention Center. Visit www.thecsishow.com.

AIA150

AIA/Los Angeles Design Awards Gala
Los Angeles
June 21, 2007
This annual awards gala recognizes outstanding contributions to the field of architecture in Los Angeles. At the Beverly Hilton. Call 213/639-0777 or visit www.aialosangeles.org.

AIA150

Workshop for the 2006 Guidelines for Design and Construction of Health-Care Facilities
San Jose, Calif.
June 22–23, 2007
Designed for architects, engineers, facility managers, project managers, and contractors, this two-day program reviews codes and standards for health-care facilities, including changes and new material in Guidelines 2006, and features a lecture format with open forums and question-and-answer sessions. Visit www.aia.org.

Architecture Camp
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June 25–August 17, 2007

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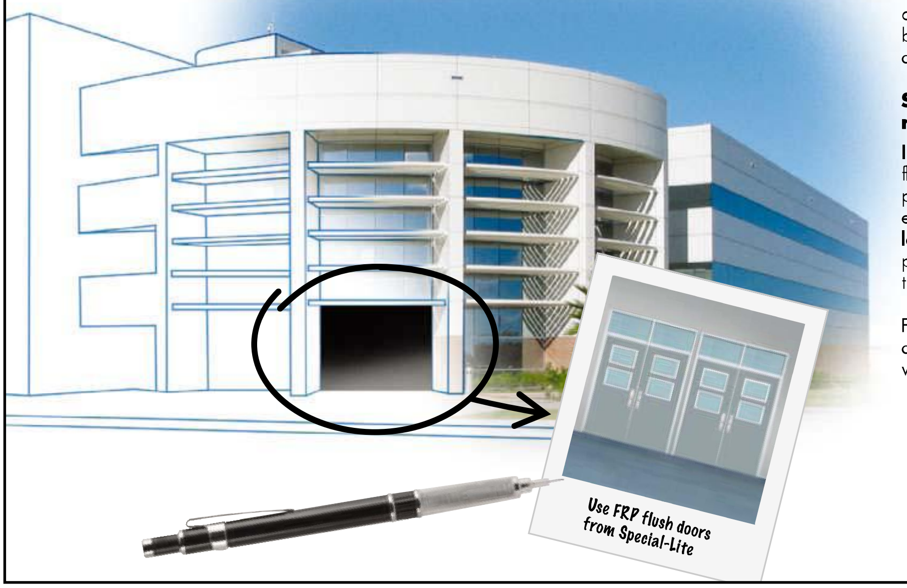
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Architecture Explorations, a series of one- and two-week camps dedicated to architectural design, construction, form, and function, and presented in collaboration with Carnegie Mellon University's School of Architecture, are available for children ages four to 13, as well as high school students. The architecture camps are held at Carnegie Mellon University's architecture studios and in the Carnegie Museum of Art's Heinz Architectural Center. Call 412/622-3131 or visit www.cmoa.org.

Competitions

Shrink This House
Deadline: June 15, 2007
This competition is open to all architects and architecture students. The winning entries will be published in the September-October issue of *Florida Insideout Magazine*. The program challenges the participants to take a 5,687-square-foot, two-story modern house going up in Miami Beach and, in expectation of high energy prices and an aging population in 2025, shrink it, creatively, to 2,000 square feet. Visit www.floridainsideout.com or call 305/532-7027.

Child's Play
Deadline: June 17, 2007
This competition focuses on children and asks designers to create an affordable object (or objects) that encourage children to cultivate their own imagination and creativity. The function is open to interpretation, and the objective of the design should be to encourage exploration and to inspire children to derive thier own associations and invent their own interaction or way of playing with the object. For more info, visit www.design21sdn.com.

Shelter Me
Deadline: June 17, 2007
In the past two years, widespread catastrophic events have called forth large-scale relief efforts throughout both urban and rural areas of the world. The Shelter Me competition challenges designers to present a cost-effective short-term shelter that is affordable, lightweight, strong, and easily deployed. Visit www.design21sdn.com.

21st International Excellence on the Waterfront Awards
Deadline: June 29, 2007
This program will honor waterfront projects, plans, citizen efforts, and student awards. Winners will be announced on November 2 during the "Urban Waterfronts 25: the Next Wave" conference at the Seaport Hotel in Boston. For program details and entry forms, call 202/337-0356 or visit www.waterfrontcenter.org

Kokuyo Design Award 2007 Call for Entries
Deadline: June 30, 2007
Adaptable designs of any product used daily either at home or in the work place may be submitted. Visit www.kokuyo.co.jp.

Design Trust for Public Space Call for Proposals
Deadline: July 27, 2007
New York City community groups and public agencies are invited to submit proposals for research, design, and planning projects that would benefit from private-sector expertise. Proposals must relate to the design or use of public space in the five boroughs of New York City. For more information visit www.designtrust.org.

The American Institute of Architecture Students' (AIAS) 2nd Annual National Student

---

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Dates & Events

Design Competition
Deadline: November 5, 2007
Developed for advanced students, this competition will challenge participants to design a pediatric outpatient rehabilitation center and family support facility utilizing architectural aluminum building products and systems. For more information, visit www.aias.org/kawneer.

Palladio Awards
Deadline: November 15, 2007
The Palladio Awards are named in honor of Andrea Palladio, the Renaissance architect who created modern architecture for his time while using models from the past. The program recognizes individual designers and/or design teams whose work enhances the beauty and humane qualities of the built environment through creative interpretation or adaptation of design principles developed through 2,500 years of the Western architectural tradition. Call 718/636-0788 or visit www.palladioawards.com.

Just Jerusalem
Deadline: December 31, 2007
This competition invites participants worldwide to submit urban plans and other creative works that consider novel ways to transform this fractious city into a place where contending ideas and citizenries coexist in peaceful ways. An international panel of diplomats, researchers, and professionals will jury the competition. The winning participants will be awarded fellowships at MIT, a prize equivalent to $50,000. Visit www.mit.edu/cis/jerusalem2050/.

Fourth Annual Extreme Redesign: The Ultimate 3D Printing Challenge
Deadline: December 31, 2007
A global design and 3D printing contest for high school and college students that awards scholarships to the winners. To enter the engineering categories, students need to identify an existing product and redesign it, making the original design better by adding new functionality or aesthetic qualities. For submissions in the art and architecture category, the emphasis should be on originality and the overall beauty or aesthetic of the design. Visit www.dimensionprinting.com.

Project New Orleans Call for Submissions
Ongoing
Project New Orleans is seeking to compile a record of all architectural and planning proposals created for the post-Katrina rebuilding of New Orleans. Submissions for proposals are welcome, both written and graphic, from the architectural to the regional, and from all engaged in thinking about the future of the city in physical terms. Visit www.project-neworleans.org.

Open Architecture Prize
Deadline: Ongoing
The $250,000 Open Architecture Prize is the largest prize in the field of architecture and is designed to be a multiyear program. Each year, a winning design will be selected from a field of low-cost, sustainable projects and built in a selected community. The first project will be an "e-community center," a centralized building equipped to enable an entire community to access the Internet. The winning designs will be built as part of the prize and in alignment with the 50x15 Initiative, a program founded to connect 50 percent of the world's population to the Internet by 2015. To learn more, visit www.50x15.com.

E-mail event and competition information two months in advance to elisabeth_broome@mcgraw-hill.com.

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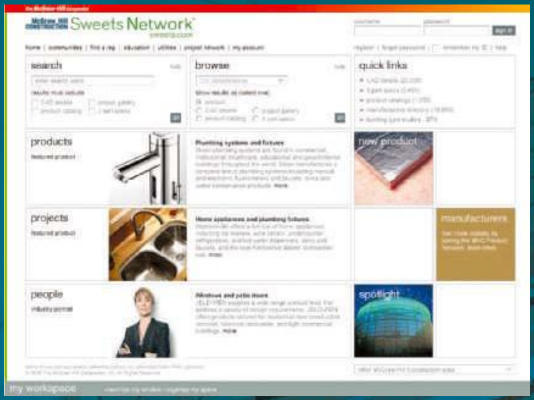
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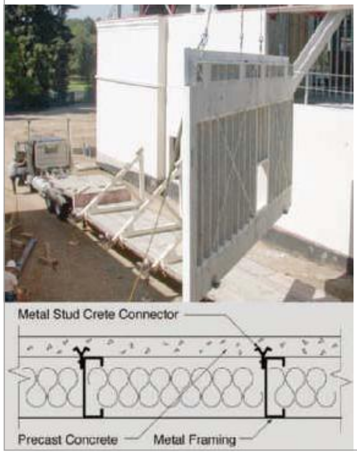
Earl Composite Systems



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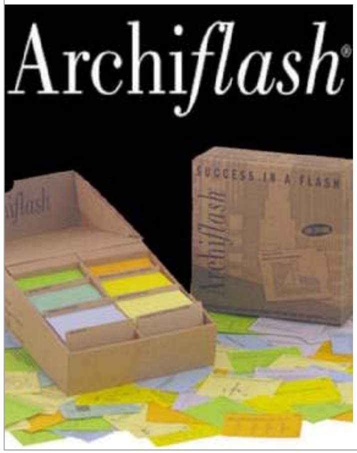

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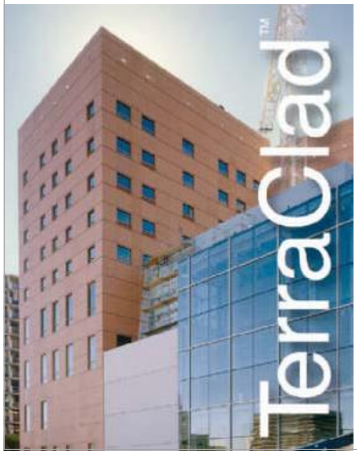
Green Architectural Cladding System

Boston Valley Terra Cotta



A "green" architectural cladding system, delivers the advantages of rainscreen performance while retaining the beauty and richness of terra cotta. TerraClad is produced in the U.S. at Boston Valley Terra Cotta's state-of-the-art facilities. Available in colors, sizes and patterns, featuring prepunched attachment tracks for rapid field installation. TerraClad contributes to LEED credits.

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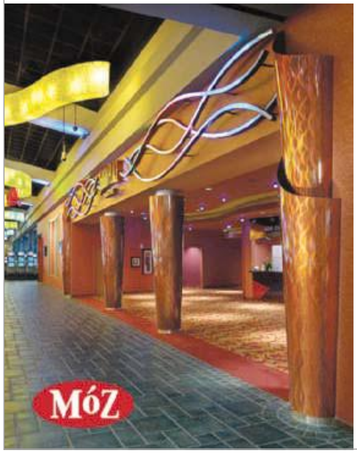
| Circle Reader Service #156

Column Covers & Wall Panels

Móz Designs, Inc.



Móz Column Covers and Wall Panel Systems are pre-fabricated to offer easy installation and come in a variety of shapes. Their products stand up to heavy traffic and are available with new durable Special Finishes. Móz offers 12 unique patterns and 16 standard colors. Custom architectural products are their specialty. Let their value engineering team transform your ideas and concepts into solutions for dynamic environments.

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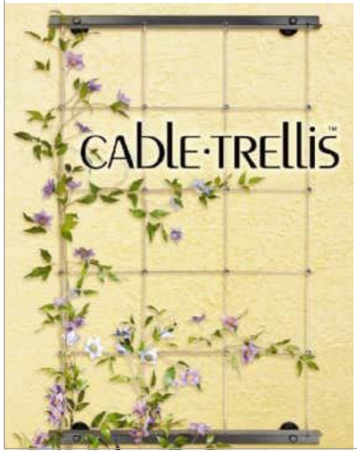
www.mozdesigns.com/ar6

| Circle Reader Service #159

Cable Trellis Kits

Feeney Architectural Products



Feeney Architectural Products introduces their new *CableTrellis*™ line of wall mount and freestanding trellises. Sold in easy to use kits with powder coated aluminum support frames and sleek stainless steel cable and rod vine grids, these trellises offer simple, elegant design details with exceptional versatility and easy installation. Use them to help minimize UV exposure on walls, control ambient heat gain, expand a garden space vertically, frame a lovely view or create a shaded partition.

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www.cabletrellis.com

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Perforated Metal

Hendrick Manufacturing

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| Circle Reader Service #158

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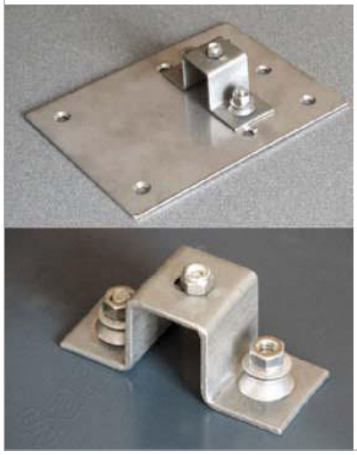
www.meltonclassics.com

| Circle Reader Service #161

Universal Roof Attachment

Alpine Snow Guards



An innovative solution for a variety of applications. Alpine's new Universal Roof Attachment is installed on the roof deck and is flashed or integrated into the roof system to prevent leaks. Can be used to secure satellite dishes, solar panels, stove pipes and more.

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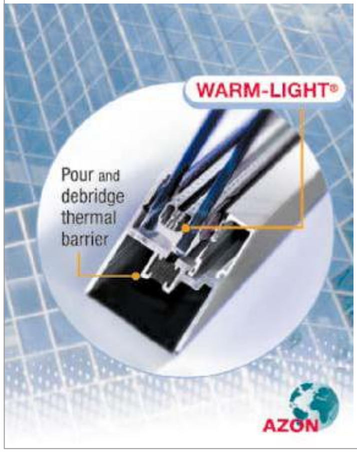
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AZON

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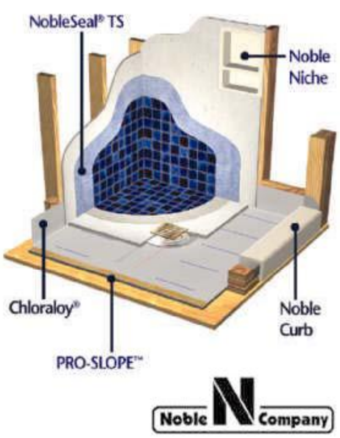

Save time and money and avoid leaks that can result in the growth of mold. Use Noble Company's shower waterproofing products to help ensure a watertight installation. Products include sheet membranes, like Chloraloy® and NobleSeal® TS. Accessories can save time and help ensure quality. Examples include Noble Niches and Curbs and PRO-SLOPE™, a composite that creates the required slope under the waterproofing membrane. For more information visit www.noblecompany.com or call 800-878-5788.

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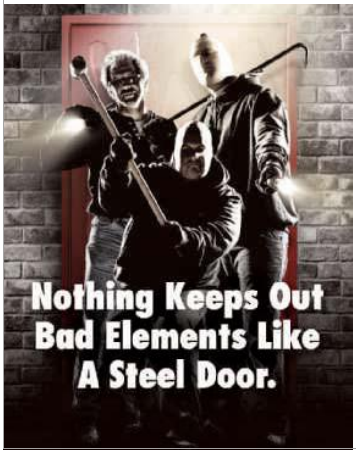
Steel Doors & Frames

Steel Door Institute



For strength and security there's nothing like a steel door. The Steel Door Institute sets standards for the performance, care and use of steel doors and frames. The SDI Fact File is the only resource you need to ensure that the steel doors and frames you choose meet the highest standards of all—yours. Request a copy of the SDI Fact File at www.steeldoor.org.

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3-Way Adjustable Heavy Duty Concealed Hinge

Sugatsune America, Inc.

Manufacturer of commercial and residential hardware, Sugatsune has released new 3-Way-Adjustable Hinge, HES3D-190. This hidden hinge provides flush surface, adding clean appearance to the design. Maximum door weight (110-lb./2 pieces) and door size (H94-31/64-in.x W35-7/16-in.). Available in 2 finishes, matte silver or matte gold. Hinge allows vertical, horizontal and depth adjustment, even after installation. Successfully passed 500,000 open/close private cycle test.

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Surface Mounted Niches

Architectural Products by Outwater, LLC

Every bit as simple as hanging a picture, Architectural Products by Outwater's high-density polyurethane Surface Mounted Niches not only transform ordinary, unembellished walls into elegantly appointed, dramatic 3D focal points, unlike recessed niches, they can be readily installed by anyone without ever having to cut a hole in the wall. Comprising two "Keyhole" recesses embedded on its back surface, Outwater's lightweight yet strong Surface Mounted Niches can be mounted, or perhaps, more appropriately, hung utilizing traditional picture hanging hardware and techniques. Free 1,100+ Page Master Catalog!

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Technical Glass Products

Imagine full lite glass doors that give the same fire protection as solid steel. TGP offers a complete system of Pilkington Pyrostop® glass in narrow profile Fireframes® framing. Complement the door with a matching transom and sidelites, fire-rated up to two hours. Framing comes factory-finished to your specifications, ready to install. Give your customers the look they want without compromising safety.

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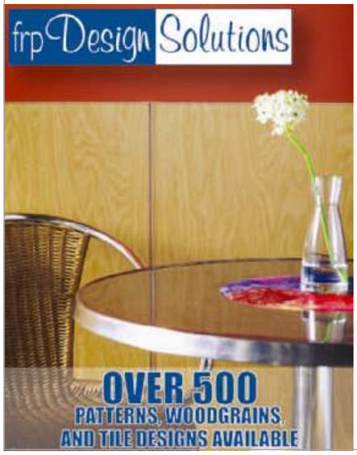
| Circle Reader Service #175

Decorative Wall Panels

Crane Composites, Inc. (formerly Kemlite Company, Inc.)



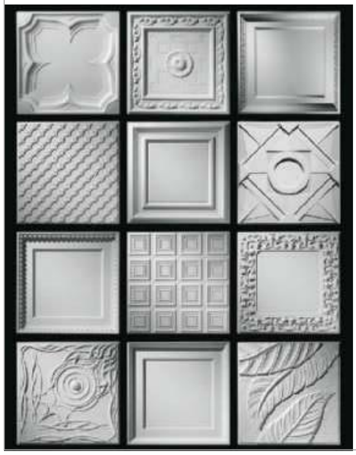
frpDesign Solutions is a family of decorative wall panels that provides an alternative to traditional wall coverings such as ceramic tile, wood paneling or vinyl wall coverings. Offering both functionality and design, products in the frpDesign Solutions line are made of a moisture-resistant frp panel with a decorative finish that includes myriad colors, patterns, and woodgrains, as well as a tile-look panel. Available with over 500 choices, frpDesign Solutions is easy to install and maintain. For more information, visit Kemlite on the web.

800-435-0800
www.frpdesignsolutions.com
CSI Booth #618

| Circle Reader Service #178

Ornamental Plaster Ceiling Tiles

Above View Mfg., By Tiles, Inc.



Above View ornamental plaster ceiling tiles are fabricated from a non-toxic, non-combustible, proprietary composition. They drop into any standard 15/16-in. T-Bar grid system. There are more than 50 standard designs, custom design work, and 1,300 custom colors and faux finishes available upon request.

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Eventscape Inc.

eventscape

Eventscape manufactured the flowing, framed fabric ceiling panels that expand the spectrum of mood and atmosphere in this upscale restaurant complex in Miami. They work with designers worldwide to create unique solutions for ceilings, columns, walls, and special features, clad in any material. Contact them at info@eventscape.net "Create without boundaries."™

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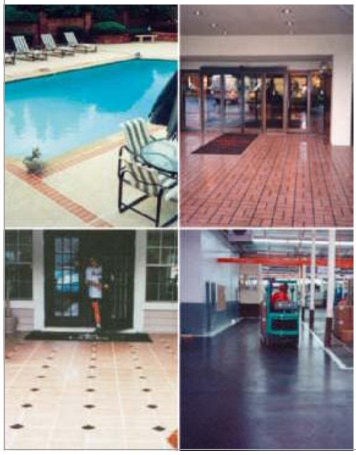

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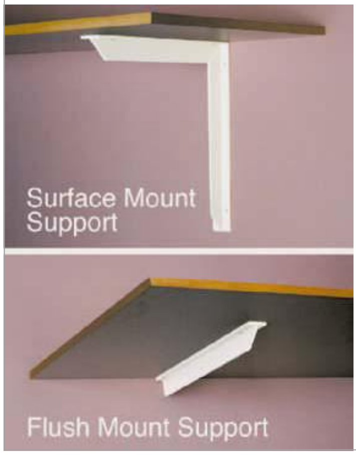
Counter Support Brackets

Rangine Corporation / Rakks



Rangine Corporation's counter support brackets provide an easy-to-install alternative to full-height laminated panels. Available in a range of sizes to support counters up to 30-in.-deep, brackets install easily into studs or blocking and can support loads up to 450-lb. Less expensive than laminated supports, they increase open space while improving handicapped access and ergonomics. Brackets can be ordered in either surface or flush mounted configurations to provide heavy-duty unobtrusive support. Manufactured of extruded structural aluminum.

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818-785-0171
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Electric Radiant Heating Cable

Orbit Radiant Heating

Orbit Radiant Heating specializes in maintenance-free electric radiant heating systems that feature Nexans TXLP heating cable. Manufactured in Norway, the cable is designed to withstand the rigors of harsh outdoor use for snow- and ice-melting. The integrated sensors and controls along with specific application design assure the lowest first and operational cost and maximum safety. Indoors, designers prefer Orbit systems because they operate silently, are non-allergenic, safe, and require no boiler capacity or mechanical room space.

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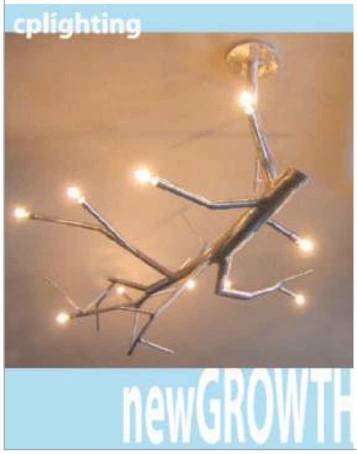

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D&D Technologies

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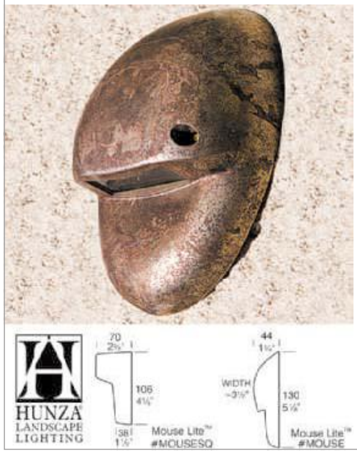
Surface-Mount Outdoor Light

Hunza Lighting USA



The Hunza Mouse Lite is a true surface-mount outdoor luminaire that is ideal for situations where a recessed fixture is not practical. Available in solid bronze, stainless steel or square profile, the Mouse is a versatile option for steps, decks, posts and many other applications.

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Candidates should be fully experienced in Design Development. A good intuition for graphic design and presentation design is also fundamental.

Qualified candidates should submit, by email, a resume or curriculum vitae along with at least (5) excerpts that best represent your professional and academic architecture work. Files should be in PDF format - not to exceed 2MB - and be send to judith.dejongste@mecanoo.nl, or by post to Mecanoo architecten, f.a.o. Judith de Jongste, P.O. Box 3277, 2601 DG Delft, The Netherlands. For more information about Mecanoo: www.mecanoo.nl

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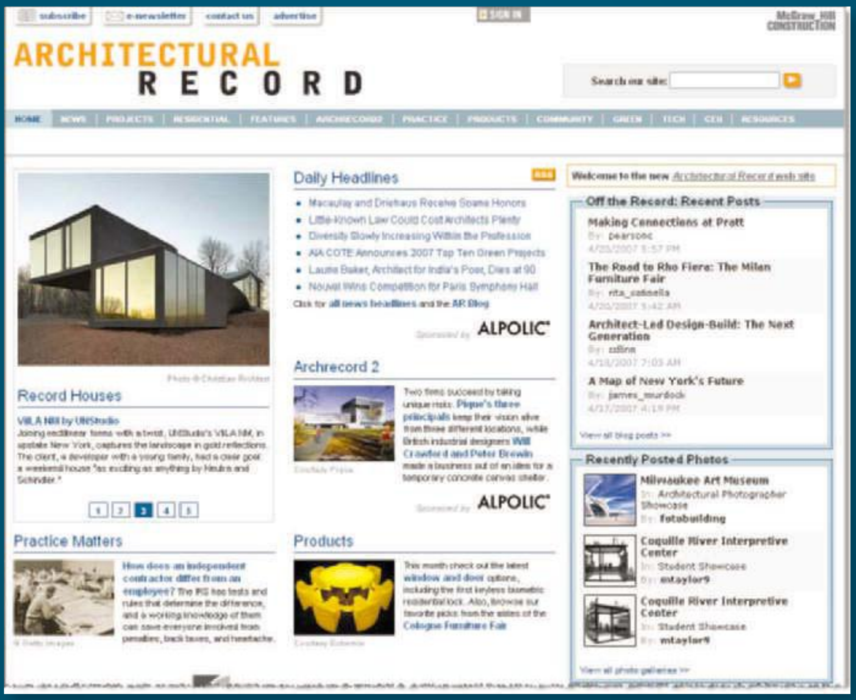
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Photo © Christian Richters

Record Houses

VILLA NM by UNStudio
Joining rectilinear forms with a twist, UNStudio's VILLA NM, in upstate New York, captures the landscape in gold reflections. The client, a developer with a young family, had a clear goal: a weekend house "as exciting as anything by Neutra and Schindler."

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Archrecord 2

Two firms succeed by taking unique risks: Pique's three principals keep their vision alive from three different locations, while British industrial designers Will Crawford and Peter Brewin made a business out of an idea for a temporary concrete canvas shelter.

Courtesy Pique

Practice Matters

How does an independent contractor differ from an employee? The IRS has tests and rules that determine the difference, and a working knowledge of them can save everyone involved from penalties, back taxes, and heartache.

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Products

This month check out the latest window and door options, including the first keyless biometric residential lock. Also, browse our favorite picks from the aisles of the Cologne Furniture Fair

Courtesy Bebemos

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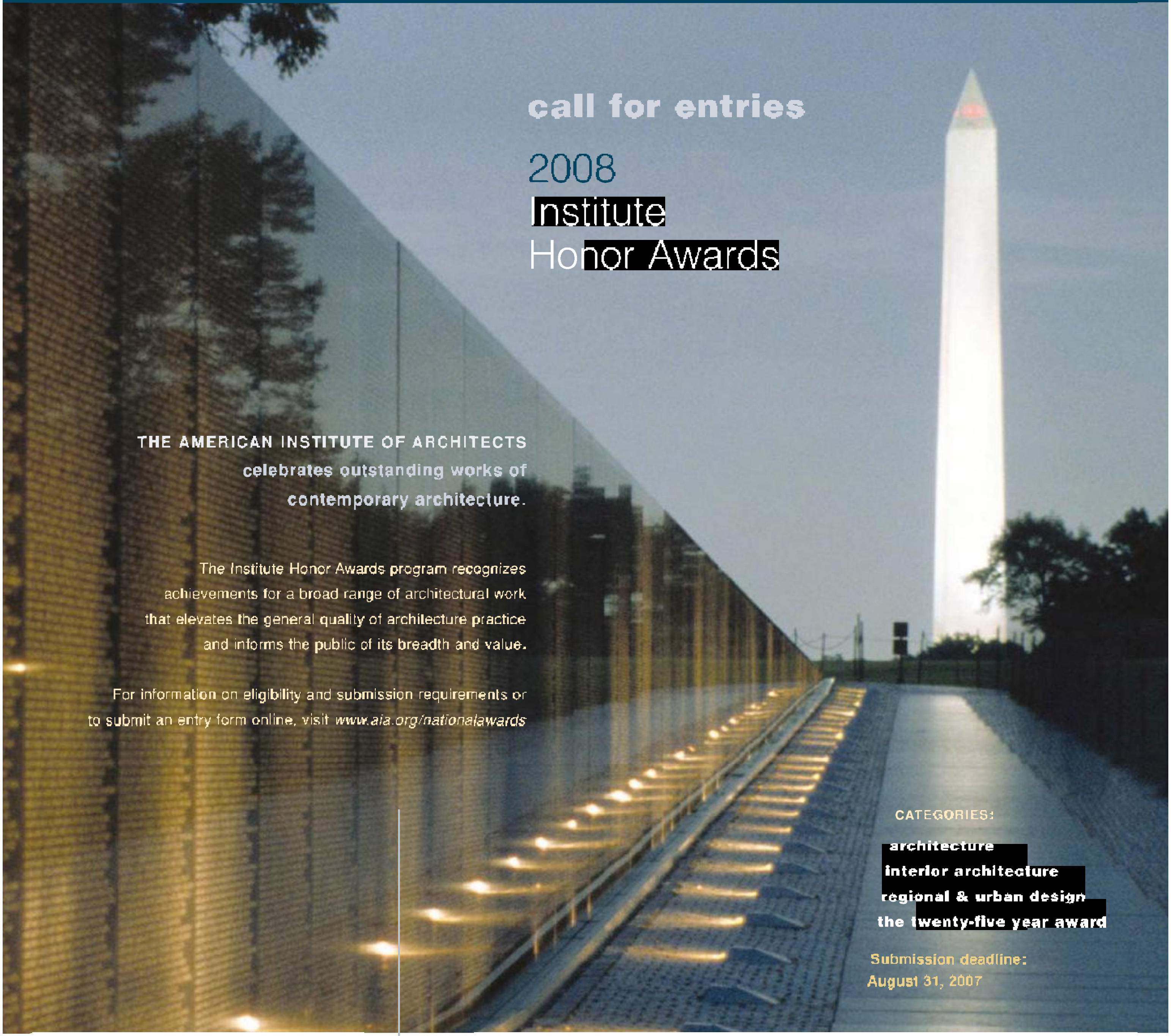

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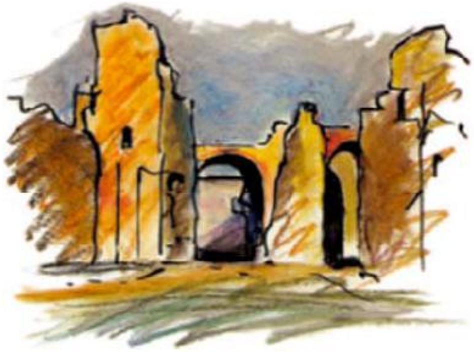

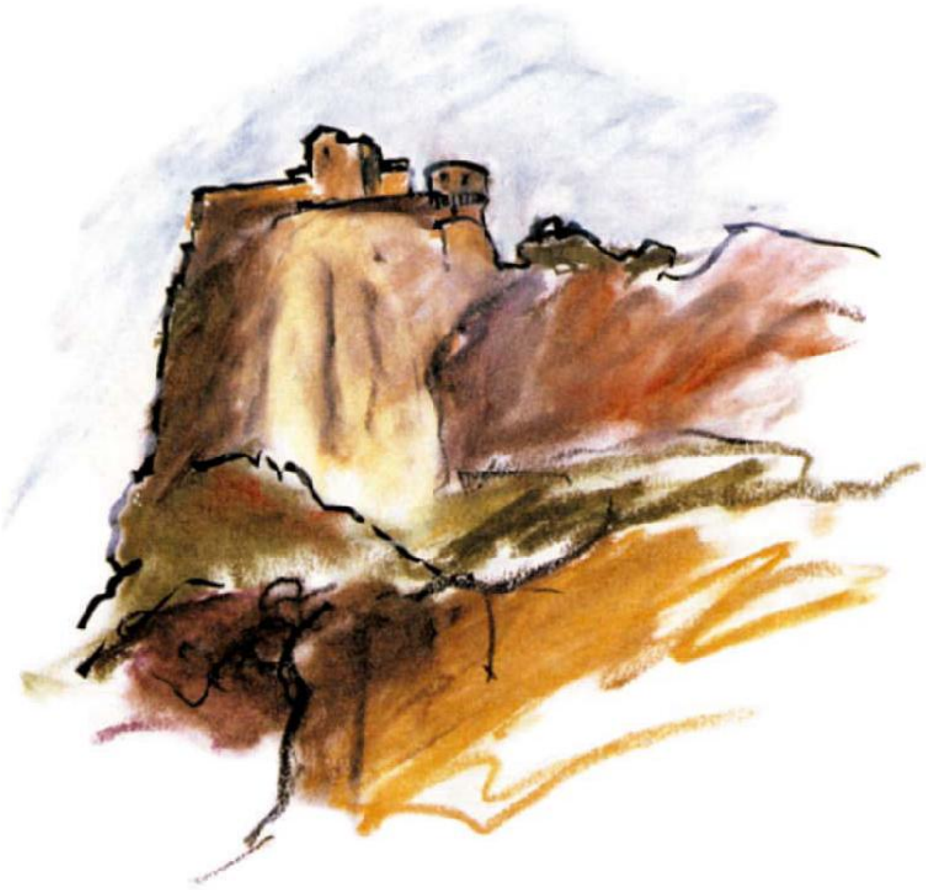

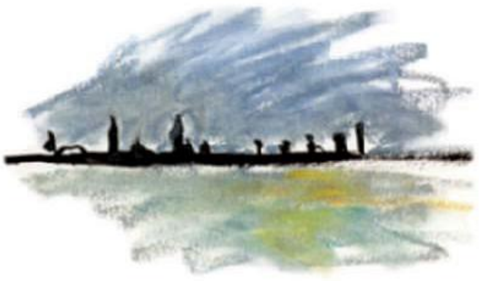

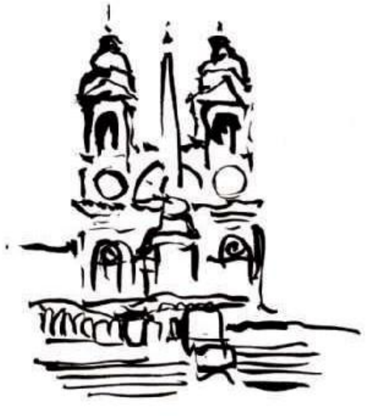

Antoine Predock's vivid journeys

While traveling abroad by motorcycle in the 1960s, architect Antoine Predock carried only the "bare essentials," which he says included a sketchbook and India ink, but no technical pens. Instead, he drew with objects he found on-site: "Feathers, twigs, or popsicle sticks sharpened with a knife—whatever was there," he recalls. Having studied painting at the University of New Mexico with Abstract Expressionists such as Elaine de Kooning, Predock embraces drawing as a visceral gestural act, conveying the spirit of a place, rather than an analysis of it. As his journeys evolved, he discovered the brush pen, which he takes along, often with pastels. Sometimes he depicts an iconic building over and over, each time quickly to capture its essence, as he did in 1985 with the Pantheon and Trinità dei Monti during his fellowship at the American Academy in Rome. His sketchbooks from that period include what he calls a "90-second drawing" of Venice, done with oil pastels and brush pen, from a boat, "on one of those days when water and sky dissolve into one another." In San Leo, Italy, he portrayed a mountaintop fortress as "geology and color morphing into architecture—one of my obsessions," he says. Back in Rome, at the Baths of Caracalla, he was again taken with evocative ambiguity; there, between natural rock formations and fragments of ancient buildings, integrated without preciousness into everyday life. Though some of the sketches appear loose, lyrical, almost calligraphic, others are densely scratched (or later layered into collages with local currency, postcards, etc.). But beyond differences in materials or the character of the line, these gestural images are each about direct, unmediated immersion in a particular time and place. *Sarah Amelar*

Clockwise from top left: *Baths of Caracalla, Rome*; *San Leo, Italy*; *Trinità dei Monti, Rome*; *Venice* (varied media, 1985).

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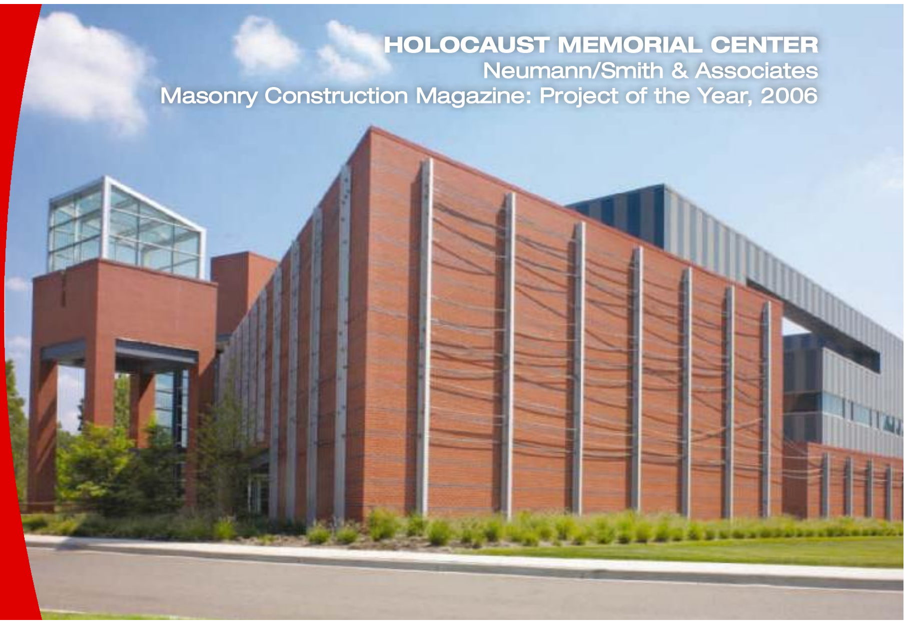

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